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FIFTEENTH ANNUAL REPORT

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

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FOR THE YEAR 1929

Cooperative Extension Work in Agriculture and Home Economics, Extension Service, University of Maryland, and the United States Department of Agriculture Cooperating.

T. B. SYMONS, Director

Distributed in furtherance of acts of Congress of May 8 and June 30, 1914.

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COUNTY DEMONSTRATION AGENTS

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Allegany	*Milo Downey (Assistant)	Cumberland
Anne Arundel	*S. E. Day	Annapolis
Baltimore	*H. B. Derrick	Towson
Baltimore	*W. H. Carroll (Assistant)	Towson
Calvert	*J. B. Morsell	Prince Frederick
Caroline	*T. D. Holder	Denton
Carroll	*L. C. Burns	Westminster
Cecil	*J. Z. Miller	Elkton
Charles	*P. D. Brown	La Plata
Dorchester	*Wm. R. McKnight	Cambridge
Frederick	*H. R. Shoemaker	Frederick
Garrett	*J. H. Carter	Oakland
Harford	*H. M. Carroll	Bel Air
Howard	*J. W. Magruder	Ellicott City
Kent	*J. D. McVean	Chestertown
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(Continued on Third Cover Page)

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(Continued on Third Cover Page)

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UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE

YEAR 1929

LETTERS OF TRANSMITTAL

DR. R. A. PEARSON,

President, University of Maryland:

I have the honor to submit herewith the Fifteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1929, together with a financial report for the fiscal year ending June 30, 1929.

Respectfully submitted,

THOMAS B. SYMONS,
Director, Extension Service.

January 1, 1930

HON. S. M. SHOEMAKER,

Chairman, Board of Regents:

In accordance with the requirements of the Act of Congress, approved May 8, 1914, and known as the Smith-Lever Act, I have the honor to transmit herewith, for submission to the Governor of the State, the Fifteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, for the calendar year 1929, together with a financial report for the fiscal year ending June 30, 1929.

Respectfully submitted,

R. A. PEARSON,
President.

January 1, 1930.

TO HIS EXCELLENCY ALBERT C. RITCHIE,

Governor of Maryland:

I have the honor to transmit herewith the Fifteenth Annual Report covering the work of the Extension Service of the University of Maryland, in cooperation with the U. S. Department of Agriculture, submitted to me through the President of the University.

Respectfully submitted,

S. M. SHOEMAKER,
Chairman, Board of Regents.

January 1, 1930.

FIFTEENTH ANNUAL REPORT

OF THE

UNIVERSITY OF MARYLAND

EXTENSION SERVICE

FOR THE YEAR 1929.

BY THOMAS B. SYMONS, *Director.*

Introduction

AGRICULTURE in Maryland during the year 1929 has experienced its bright spots as well as some shadows, and the year can be recorded as generally favorable for this basic industry.

The three crops, corn, wheat, and tame hay, which represent the greatest farm value of any three crops grown in the State, suffered from a severe and long-continued drought, and with prices which were no greater than during preceding years, the value of these crops fell to a low level. Tobacco growers had about a normal year as to production and the price received for their 1928 crop was better than at first anticipated and in some measure offset the unfavorable growing season of that year.

While weather conditions were not especially favorable for the potato crop, and the yield was smaller than is usually obtained, prices were such as to make the year rather successful for the potato growers. Experience with this crop furnishes a good example of the benefits that may be derived from intelligent cooperation in the use of economic information and crop and market data.

The increase in value of canning crops, particularly tomatoes, marks a step toward the development of types of agriculture that are adapted to conditions in Maryland and promise greater income for those who farm the land. The season of 1929 has witnessed a substantial gain in income from the truck crops, tobacco has given reasonably satisfactory returns, the same may be said of fruit, while the corn, wheat, and hay crops, which occupy a large percentage of the land in farms, have had a lower

cash value. With the exception of wheat, the real value obtained from these crops, however, is in the form of feed and is reflected in the income from dairying, livestock, and poultry, each of which has shown an increase and helped to offset the low value of the crops, when estimated on a cash basis.

Crop Yields

Corn and wheat, the two principal crops in Maryland, had slightly lower farm values in 1929 than in 1928, which was far from a satisfactory year for those crops. The corn crop had an average yield per acre of 36.5 bushels, which was the same as in 1928, and the farm price on December 15 was also the same. With 5,000 less acres planted in corn, however, the 1929 crop was worth approximately $16,863,000, in comparison with $17,024,000 for the 1928 crop. The wheat crop, with an average yield per acre of 17.5 bushels, compared with an average of 16.5 bushels in 1928, and with 11,000 more acres in the crop than in the preceding year, had a total value of $11,172,000, compared with $11,106,000 for 1928. An increase in yield and in acreage was partially offset by less favorable price. The tobacco crop was quite similar to the 1927 crop and a great improvement over the unfavorable conditions experienced by tobacco growers in 1928. Estimates for that crop show a decidedly better yield, and a total farm value of $6,016,000 in 1929 compared to $5,586,000 in 1928.

Farm value of each of the three principal orchard crops was greater than in 1928, but lower prices for peaches and pears partially offset the increased yield of those crops. A slightly better yield of apples was accompanied by materially better prices.

The potato crop shows the most radical contrast, when compared with 1928. With 7,000 less acres planted, and a decrease in total production of almost a million and a half bushels, the farm value of the crop is estimated at $4,800,000, in comparison with $2,702,000 for the 1928 crop.

The situation as regards dairy, livestock and poultry has continued generally satisfactory throughout the year and there has been gradual, but steady improvement in these important phases

of Maryland agriculture. Progress has been made in the development of better methods, both in production and marketing, with the result that interest among producers has greatly increased. A material increase in numbers and also in value of dairy cows, beef animals, and sheep is an encouraging indication of progress toward sound and permanent systems of farming.

Progress in Marketing

Continued increase in the number of applicants for shipping-point inspection of their products is evidence of the tangible and practical value of this service. During the past year ten commodities were inspected for 63 applicants. The fact that there continues to be a decrease in the number of cars that fail to meet grade requirements indicates strongly that growers and shippers who use the inspection service are each year putting out products which more nearly meet the requirements of recognized grades and standards. A total of 2,781 cars were inspected in 1929. Growers and shippers of early Irish potatoes were by far the heaviest users of the service and secured inspection of 1,256 cars. Apples and strawberries came next in number of cars inspected, the former providing 489 and the latter 455 cars. Other products included peaches, 254 cars; sweet potatoes, 180 cars; tomatoes, 85 cars; cucumbers, 29 cars; mixed vegetables, 17 cars; pears, 10 cars; and cantaloupes, 6 cars.

A unique opportunity for seeing, under official guidance, just how their products are handled in the markets of our largest city was furnished a group of Maryland farmers from twelve counties, by a tour of New York markets. This tour was conducted in cooperation with the Baltimore and Ohio Railroad and included marketing specialists of the Extension Service and County Agents, along with the farmers.

As a result of the passage of the Agricultural Marketing Act by Congress and appointment of the Federal Farm Board, much interest has been manifested by Maryland farmers in cooperating with the Board and utilizing the facilities it offers. This has been especially true among wheat producers. Many conferences have been held with existing cooperatives and plans made for coordinating efforts for the marketing of wheat. As a result of careful consideration, plans are now being perfected to set up

a Grain Marketing Division in the Agricultural Corporation, which will be coordinated with the National Grain Corporation. We have also worked with growers and others interested in this product in Frederick and Washington Counties.

The Service has cooperated with the Maryland Tobacco Growers' Association during the year in its efforts to secure increased membership and a larger per cent of the crop. This Association is doing a splendid piece of work in assisting growers in the marketing of their crop.

Special work has been conducted with dairy cooperatives in improving the quality of milk and assisting growers in lowering cost of production. We have also cooperated in preparing plans for a merger of the Maryland-Virginia Milk Producers' Association and the Maryland State Dairymen's Association.

It is hoped that greater progress may be made during the coming year in inducing growers of other commodities, such as poultry, eggs, fruits and vegetables, to form cooperative marketing associations. The Service has been very active in working with the 500 or more producers who have been seeking adequate facilities for a Farmers' Market in Washington City. Several developments in this project will be seen during the coming year.

Inter-State Potato Committee

Through cooperation of the States of Virginia, North Carolina and Maryland and the U. S. Department of Agriculture, an Inter-State Potato Committee was formed in the fall of 1928. The committee consisted of the Directors of Extension of these States and representatives of growers and dealers, together with representatives of the Bureau of Agricultural Economics and Extension Service, U. S. Department of Agriculture. This committee was formed for the purpose of studying the early potato situation following the disastrous year to growers throughout the early potato area in 1928. The committee was financed by the above agencies and a full-time secretary employed to coordinate work throughout the South Atlantic Seaboard. Conferences and meetings were held in each territory and a substantial cut in the acreage was secured by presenting economic facts concerning the crop to growers, dealers, credit agencies, etc. As a

result, a fair price was secured for the early potato crop in Maryland in 1929.

It is admitted that the Committee's work will be put to a severe test this coming season, as it is customary for acreage to increase following a successful season. Meetings have been held in all sections of our early potato area with a view to giving facts on the trend of prices in respect to the crop over a series of years and giving results of outlook information and intention to plant. It is hoped that growers will use this information and profit from past experience and hold their acreage in Maryland in 1930 to that of 1929.

It is believed that this movement taking in the whole early potato area will be a most constructive step in regulating production to consumer demands.

Dairy Industry

The year has seen rapid development in almost all phases of the dairy industry. Achievements of 4-H calf club boys have not only inspired greater interest among boys of the State, but have been a potent factor in arousing the interest of adults. Enrollment in calf clubs showed an increase of approximately 60% and for the first time an exhibit of Maryland 4-H club calves was sent to the National Dairy Show, which was held in St. Louis. The showing made by them was extremely creditable.

There has been a substantial increase in the number of purebred sires and unusual activity has been evident in the construction and remodeling of dairy buildings. Almost 200 silos were constructed during the year, about the same number of barns were erected or remodeled, and a large number of dairy houses and cooling tanks were built.

In size and quality the exhibit of dairy cattle at the Timonium State Fair rivaled some of the principal dairy shows of the country. As in former years, splendid prizes were offered by that fair for 4-H club exhibits and the annual State judging contest.

Progress in Livestock

Conditions on hundreds of farms make livestock both necessary and desirable. Progress of a single year in the develop-

ment of this industry is difficult to measure, but by comparing present conditions with those which existed a few years ago, progress is evident. There is a substantial increase in the number of purebred bulls of the beef breeds used in the State. Also, about 300 purebred rams have been distributed among farmers in the last five years. More than 500 purebred breeding ewes have been brought in and flocks of purebred sheep now number more than 100, where ten years ago there were not more than five or ten.

Perhaps the most outstanding event from the standpoint of the livestock industry during the year was the holding of the First Annual Baltimore Livestock Show under the auspices of a State Livestock Committee, cooperating with the Baltimore Stock Yards Company and the Baltimore Association of Commerce. In planning and conducting this event, the Extension Service cooperated most fully with the other agencies. The interest in livestock that it aroused and the stimulus it gave to production of the best type of meat animals, cannot be measured, but is certain to have an important influence upon livestock in the State.

The sheep improvement program during the last year was featured by the Annual Ram Sale, where 45 registered rams were sold, and the purchase in Montana of 279 purebred breeding ewes and five rams.

With 26 entries, representing eight counties, the Maryland Litter Contest was the largest it has ever been. Eight litters successfully completed the contest, which is just double the number that completed it last year. Cash prizes offered by Wm. Schluderberg of Baltimore greatly stimulated interest in the contest and the industry as a whole.

The year witnessed greatly increased interest in the 4-H club baby beef demonstrations. This project is designed to demonstrate the practice of feeding and selling baby beef steers and included 40 steers in 1929. At the Baltimore Live Stock Exposition, 35 of the steers grown by the boys sold at an average price per hundred of $17.75 and for a total cash value of $6,250.35. The steer feeding demonstrations conducted by 4-H club boys are exerting an important influence, both in the home communi-

ties and at the various places where results of the work are exhibited. They are vital factors in bringing better livestock on Maryland farms.

Pasture Improvement

A project to show the possibilities of increased returns from pastures and meadows was started this year and will be continued for a number of years. Grass land was top-dressed with fertilizers in Cecil, Harford, Howard, Montgomery, Carroll, Frederick, Washington and Charles Counties. These result demonstrations, together with other methods of emphasizing the value of increasing the carrying capacity of the large acreage of grass lands in the State, have aroused much interest. The project supplements the increase in dairying and livestock production and promises to be an important factor in the economic production of home-grown feed.

Improvement of Canning Crops

With the benefit of more favorable growing conditions, the work in improvement of canning crops made substantial progress. Tomato growers in a majority of the Counties of the State were enrolled in the Ten-Ton production contest, which is conducted by the Extension Service in cooperation with the Tri-State Packers' Association and other agencies. A total of 127 growers, with 709 acres of tomatoes, entered the contest and 28 growers qualified by producing ten tons, or more to the acre.

Tests to determine the most suitable varieties were continued and much attention was given to the production of high-quality seed. The adoption of improved methods for growing tomato plants was evident from the increased number of growers using cloth-covered frames, or open seed beds.

Although extreme dry weather made the season somewhat unfavorable, a project to determine the feasibility of growing sweet corn for seed purposes gives some promise. Progress was made in developing methods whereby some of the most destructive diseases of beans may be controlled.

Japanese Beetle

Appearance of this pest in the State two years ago has presented our fruit and floral interests with some difficult problems. While not a direct Extension activity, work has been carried on under the Extension administration. After careful consideration by our Entomologist and others and in cooperation with the U. S. Department of Agriculture, it was decided to treat the slight infestations with every known means of control in order to prevent spread and also to prevent the State from being placed in Federal quarantine.

Through the active interest of President Pearson and Governor Albert C. Ritchie, additional State funds were provided in order to carry out the treatment program with the Government. We have thus been able to practically prevent spread of the pest from previously infested points, and this has meant a saving to growers of the State, during the last two or three years, of not less than a quarter of a million dollars in losses and extra expense which a Federal quarantine would have entailed.

While additional beetles were found in the infested areas during the past year, yet we hope that the trapping systems will show good results in 1930.

Home Makers Active

Under the supervision of Miss Venia M. Kellar, State Home Demonstration Agent, work among the rural women has been characterized by greater achievements and increased interest. A number of projects were offered in home improvement and in clothing and nutrition, all of which met with ready response from the women of the State. Organization among rural women and girls made satisfactory progress, and through the organization groups it has been possible to carry the benefits of the Service to a larger number of homes.

Enrollment at the Rural Women's Short Course totaled 666, surpassing previous records by nearly fifty per cent. Thirty-eight women received certificates for having attended the Short Course for four years. Five women were given recognition as Master Farm Home Makers, the awards being made in cooperation with the Farmer's Wife, a national farm women's magazine.

Radio Work

We have continued our Radio Service in cooperation with the U. S. Department of Agriculture over WRC and a special lecture course over WMAL.

As Secretary of the Land Grant Radio Committee, we have arranged to cooperate with the U. S. Department of Agriculture and the National Broadcasting Company in the National network program provided for the Farm and Home Hour the second Saturday of each month. National leaders at various Land Grant Institutions, including representatives from this Institution, have given interesting addresses to large audiences covering the major portion of the United States.

It is believed that we should more and more give consideration to the radio as a desirable means of disseminating information. It is further believed that the rights of educational institutions for preferred wave lengths and time for broadcasting should be maintained.

Federal Farm Board

With the passage by Congress of the Agricultural Marketing Act on June 15, 1929, there was inaugurated legislation which will have a far-reaching effect upon the agricultural industry in this country. The bill provided for the appointment of a Federal Farm Board and carried with it authorization for the appropriation of $500,000,000.

The aim of this legislation was to assist in the marketing of agricultural products and it definitely provides for the Farm Board to cooperate with farm organizations which are farmer-owned and farmer-controlled. It likewise provides for extending education in marketing, and authorizes investigations and studies covering the entire marketing field.

Much is expected from this legislation. With the wholehearted cooperation and support it is receiving from all agencies, it is believed that it will be of great benefit to the industry.

Extension forces in this State have devoted much attention to the problems of cooperative marketing and it is expected that our forces will extend every cooperation to the Farm Board and its representatives in attaining the desired end of improving our distribution system, raising the standards of products, and lessen-

ing, as far as possible, the costs of marketing, so as to increase the prices to producers. There are many angles to this problem and undoubtedly it will take many years to accomplish the results that this legislation sets out to attain. It is believed, however, that an earnest effort is being made by the Government through this legislation, in cooperation with associated agencies, to assist farmers in their marketing problems.

National Electric Project

Through the cooperation of national and state forces, in conjunction with the farm representatives of our State, the National Rural Electric Project was inaugurated in March, 1928. The purpose of this project is to demonstrate economic uses of electricity on farms and in farm homes.

A State Committee has been set up, including representatives of farmers' organizations, public utilities and University authorities. Five farms have been selected in the Sandy Spring neighborhood, Montgomery County, for the purpose of demonstrating various uses of electricity as applied to different phases of agriculture, including dairy products, poultry raising, general farming and fruit production.

Good progress has been made in the installation of electrical appliances on these farms. It was not expected that they would be model farms, but that an endeavor would be made to demonstrate how a place may be taken as it is and the electric current introduced and made to pay its way.

Our Extension Service has been pleased to cooperate in this project, believing that there is a wonderful opportunity for utilization of electricity on farms to the economic advantage of the farmer and home maker. It is hoped that during the coming year information can be taken to our people throughout the State regarding results attained through practical demonstrations conducted on these farms. Mr. George W. Kable, a recognized electrical engineer, is Director of the project, and the writer serves as Secretary.

Cooperating Agencies

The Extension Service has continued the policy of joining its forces with other agencies when there is opportunity for ad-

vancement of the State's agriculture by such cooperation, and a fine spirit of harmony has characterized all such undertakings during the past year. It has been the aim in this report to give due credit to the several cooperating agencies when discussing the particular projects with which they were connected, but if in any case such credit has been omitted inadvertently, I desire to take this occasion to record the appreciation of the Service for all assistance received in carrying on its many lines of work.

Production and Value of Crops

It has been our custom for a number of years to include a record of the yields and values of Maryland's principal farm crops in the annual report of the Extension Service. These figures are secured from the Bureau of Agricultural Economics, United States Department of Agriculture, and show production, yields, and farm values for the past year with comparable figures for two preceding years. The livestock estimates for 1929 are also given.

Production

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Corn*							
1929	525,000	36.5	19,162,000	Bus.	$.88	$16,863,000	$32.12
1928	530,000	36.5	19,345,000	"	.88	17,024,000	32.12
1927	515,000	44.0	22,660,000	"	.80	18,128,000	35.20
Wheat							
1929	541,000	17.5	9,468,000	"	1.18	11,172,000	20.65
1928	530,000	16.5	8,745,000	"	1.27	11,106,000	20.95
1927	525,000	17.5	9,188,000	"	1.27	11,669,000	22.23
Oats							
1929	43,000	31.0	1,333,000	"	.59	786,000	18.28
1928	54,000	31.5	1,701,000	"	.56	952,000	17.63
1927	51,000	33.5	1,708,000	"	.54	922,000	18.08
Barley							
1929	16,000	32.0	512,000	"	.82	420,000	26.25
1928	13,000	32.0	416,000	"	.85	354,000	27.23
1927	9,000	30.5	274,000	"	.87	238,000	26.44
Rye							
1929	17,000	16.5	281,000	"	1.10	308,000	18.12
1928	15,000	15.0	285,000	"	1.15	259,000	17.27
1927	14,000	15.3	214,000	"	1.10	235,000	16.79
Buckwheat							
1929	7,000	18.0	126,000	"	1.00	126,000	18.00
1928	7,000	19.0	133,000	"	.95	126,000	18.00
1927	8,000	22.0	176,000	"	.93	164,000	20.50

* The figures shown for corn include corn used for all purposes.

Production—Continued

Crop and Year	Acres	Per Acre	Total	Unit	Per Unit	Total	Value Per Acre
Potatoes							
1929	40,000	100.0	4,000,000	"	1.20	4,800,000	120.00
1928	47,000	115.0	5,405,000	"	.50	2,702,000	57.49
1927	43,000	122.0	5,246,000	"	1.05	5,508,000	128.09
Sweet Potatoes							
1929	10,000	125.0	1,250,000	"	.90	1,125,000	112.50
1928	10,000	150.0	1,500,000	"	.80	1,200,000	120.00
1927	11,000	144.0	1,584,000	"	.70	1,109,000	100.82
Hay (All Tame)							
1929	423,000	1.54	652,000	Tons	13.68	8,919,000	21.08
1928	433,000	1.75	759,000	"	13.49	10,239,000	23.64
1927	443,000	1.65	733,000	"	15.40	11,288,000	25.48
Tobacco							
1929	32,000	800.00	25,600,000	Lbs.	23.5	6,016,000	188.00
1928	31,000	660.00	20,460,000	"	27.3	5,586,000	180.19
1927	32,000	818.00	26,176,000	"	23.0	6,020,000	188.12
Apples (Total Crop)							
1929	.....	.....	2,200,000	Bus.	$1.20	$2,640,000	.....
1928	.....	.....	2,190,000	"	.90	1,971,000	.....
1927	.....	.....	1,700,000	"	1.25	2,125,000	.....
Apples (Commercial)							
1929	.....	.....	455,000	Bbls.	3.55	1,615,000	.....
1928	.....	.....	442,000	"	2.65	1,171,000	.....
1927	.....	.....	400,000	"	3.70	1,480,000	.....
Peaches							
1929	.....	.....	532,000	Bus.	1.20	638,000	.....
1928	.....	.....	465,000	"	1.30	604,000	.....
1927	.....	.....	352,000	"	1.50	528,000	.....
Pears							
1929	.....	.....	254,000	"	.80	203,000	.....
1928	.....	.....	193,000	"	.90	174,000	.....
1927	.....	.....	193,000	"	.90	174,000	.....
Grapes							
1929	.....	.....	1,314	Tons	.....	65,000	.....
1928	.....	.....	1,200	"	.....	56,000	.....
1927	.....	.....	1,224	"	50.00	61,000	.....
Tomatoes (For Mfg.)							
1929	27,500	5.1	140,200	"	16.10	2,257,000	82.07
1928	23,910	2.8	66,900	"	15.70	1,050,000	43.91
1927	34,410	4.4	151,400	"	14.28	2,162,000	62.83
Sweet Corn (For Mfg.)							
1929	38,700	1.3	50,300	"	15.00	754,000	19.48
1928	35,500	1.5	53,200	"	14.00	745,000	20.98
1927	27,500	1.8	49,500	"	11.78	583,000	21.20
Cantaloupes							
1929	6,280	85.0	534,000	Crts.	1.45	774,000	123.25
1928	6,040	112.0	676,000	"	1.21	818,000	135.43
1927	7,100	125.0	888,000	"	2.20	1,954,000	275.21
Strawberries							
1929	11,750	1,850.	21,738,000	Qts.	.11	2,391,000	203.49
1928	13,800	1,600.	22,080,000	"	.07	1,545,000	112.03
1927	12,780	2,243.	28,666,000	"	.12	3,440,000	269.17

Livestock on Farms

	Number	Value per Head	Total
Horses	95,000	$ 97.00	$ 9,215,000
Dairy cows	193,000	100.00	19,300,000
Mules	27,000	116.00	3,132,000
Beef Animals	98,000	.....	4,512,000
Sheep	111,000	11.50	1,276,000
Swine	189,000	11.00	2,079,000

(Figures quoted for tobacco and a few other crops, the bulk of which is not sold until later, are estimates and subject to revision).

Administration

There has been no change in the administrative force during the past year. A splendid spirit of cooperation exists among all workers in the Service and relationships with other divisions of the Institution and the State Department of Public Instruction are most agreeable and satisfactory.

A special Memorandum of Understanding was drawn up as a result of conference with the Vocational forces of our State last spring. A splendid attitude of cooperation exists on the part of the Director of Vocational Work and his associates in working with our Extension forces in our common field of serving the rural community. It is believed that the memorandum agreed to will serve to promote harmony and efficiency in the respective fields and avoid possibilities of misunderstanding in the future.

The attitude of farm organizations in the State toward the work of the Service has been sympathetic and cooperative. All forces are working together in harmony for the upbuilding of organization consciousness among our farm people, and in solving the many mutual problems that are presented. It is hoped that our State organizations may be able to augment their membership during the coming year.

Several changes have taken place in the field force during the past year. As shown in the personnel statement there has been about a 20 per cent turnover in Home Demonstration Agents and 16 per cent in the County Agent personnel. As a result of the provisions of the Capper Ketcham Act, Assistants have been added to the force to meet demands in the Counties and to augment our Club Work.

The Extension Service sustained an irreparable loss during the past year in the death of Mr. M. D. Bowers, Extension Editor, April 9, 1929.

The Service is receiving unusual cooperation from the Boards of County Commissioners in the several Counties. A number of increases in County appropriations have been made during the past year and a splendid spirit of cooperation exists towards the work in practically all Counties.

Sources of Extension Revenue

During the fiscal year ending June 30, 1929, there were available for Extension Work the following funds: Federal Smith-Lever, $56,287.11; State Smith-Lever, $46,287.11; Capper-Ketcham, $20,000.00; Federal Smith-Lever Supplementary, $17,781.38; County Demonstration Fund, $53,493.55; State Funds for General Extension, $13,307.48; State Horticultural Fund, $12,868.01; Marketing Extension Fund, $11,735.58; Canning Extension Fund, $10,520.97; Miscellaneous Funds, including Advanced Registry, State Department of Forestry Funds, etc., $14,872.55; and $64,014.00 contributed by the various counties; or a total of $321,167.74. In addition, $16,742.46 was used for Japanese beetle and insect control work, and $19,380.00 was disbursed by the U. S. Department of Agriculture; making a grand total of $357,290.20.

During the present fiscal year ending June 30, 1930, there are available: Federal Smith-Lever, $56,287.11; State Smith-Lever, $46,287.11; Capper-Ketcham, $25,627.02; Federal Smith-Lever Supplementary, $17,781.38; County Demonstration Fund, $60,000.00; State Funds for General Extension $15,750.00; State Horticultural Fund, $13,565.00; Marketing Extension Fund, $11,500.00; Canning Extension Fund, $10,000.00; Poultry Extension Fund, $2,250.00; Dairy Extension Fund, $1,125.00; Miscellaneous Funds (estimated), including Advanced Registry, State Department of Forestry Funds, etc., $10,000.00; and $65,712.00 contributed by the various counties; or a total of $335,884.62. In addition, there are available $16,600.00 for Japanese beetle and insect control work, and $18,980.00 disbursed by the U. S. Department of Agriculture; making a grand total of $371,464.62.

Changes in Personnel

The following changes in personnel have taken place during the year:

Mr. A. E. Mercker appointed March 11, 1929, as part-time potato specialist.

Dr. George S. Langford appointed June 16, 1929, as specialist in insect control.

Mr. H. E. Besley appointed June 16, 1929, as part-time assistant in agricultural engineering.

Mr. A. H. Snyder appointed September 1, 1929, as Extension editor to succeed Mr. M. D. Bowers, who died April 9, 1929.

Dr. H. M. DeVolt appointed October 1, 1929, as part-time poultry specialist.

Mr. H. B. Derrick transferred February 1, 1929, from county agent in Kent County to county agent in Baltimore County to succeed Mr. W. C. Rohde, who resigned December 31, 1928.

Mr. James D. McVean appointed March 1, 1929, as county agent in Kent County to succeed Mr. H. B. Derrick, who was transferred to Baltimore County February 1, 1929.

Mr. J. Z. Miller transferred September 23, 1929, from assistant county agent in Kent County to county agent in Cecil County to succeed Mr. T. H. Bartilson, who was granted extended leave July 16, 1929.

Mr. John H. Carter appointed February 16, 1929, as county agent in Garrett County to succeed Mr. J. L. McGlone, who resigned December 31, 1928.

Mr. Paul D. Brown appointed March 1, 1929, as county agent in Charles County to succeed Mr. G. R. Stuntz, who resigned February 28, 1929.

Mr. Mylo S. Downey appointed April 1, 1929, as assistant county agent in Allegany County.

Mr. Alvin O. Sorflaten appointed April 4, 1929, as assistant county agent in Queen Anne's County, and resigned May 31, 1929.

Mr. William H. Carroll appointed September 1, 1929, as assistant county agent in Baltimore County to succeed Mr. F. L. Bull, who resigned December 31, 1926.

Mrs. Olive K. Walls returned January 1, 1929, as county home demonstration agent in Talbot County after a leave of absence.

Miss Marian G. Swanson appointed December 1, 1928, as county home demonstration agent in Wicomico County to succeed Miss Florence H. Mason, who was transferred to district county home demonstration agent October 1, 1928.

Miss Ruth W. Nesbitt appointed February 16, 1929, as county home demonstration agent in Baltimore County to succeed Miss Edythe M. Turner, who was transferred to district home demonstration agent November 1, 1928.

Miss Catherine Maurice appointed March 1, 1929, as county home demonstration agent in Harford County to succeed Miss E. K. Schurr, who resigned February 28, 1929.

Miss Myrne L. Hendry appointed June 16, 1929, as county home demonstration agent in Howard County to succeed Miss V. N. Metzger, who resigned June 15, 1929.

Miss Ula F. Fay resigned November 18, 1929, as county home demonstration agent in Charles County.

Miss Ernestine Chubb appointed June 8, 1929, as assistant county home demonstration agent in Frederick County to succeed Miss K. L. Baker, who resigned June 8, 1929.

Mrs. Arminta J. Watson appointed July 16, 1929, as local home demonstration agent in Charles, Prince George's and St. Mary's Counties to succeed Mrs. Leah W. Hopewell, who resigned August 31, 1927.

Equipment

No special additions to equipment of the Service have been purchased during the past year, except necessary office facilities, including typewriters, transfer cases, files and desks. It has been our hope to secure additional visualgraph material, including a number of charts, but funds have not permitted.

Several pieces for exhibits have been prepared for county and community fairs. There is urgent need for more adequate provision for this line of work. We need a specialist to devote his whole time to the preparation of exhibit material, slides, films, etc., to adequately supply our specialists and agents with such material.

Increasing Efficiency of Workers

Regular monthly conferences of specialists are held at headquarters, in addition to frequent conferences pertaining to special projects. Monthly group conferences of the Agents are held in the field for the purpose of discussing programs of work and special campaigns, as well as to discuss outlook information and various economic facts and marketing conditions affecting the various industries.

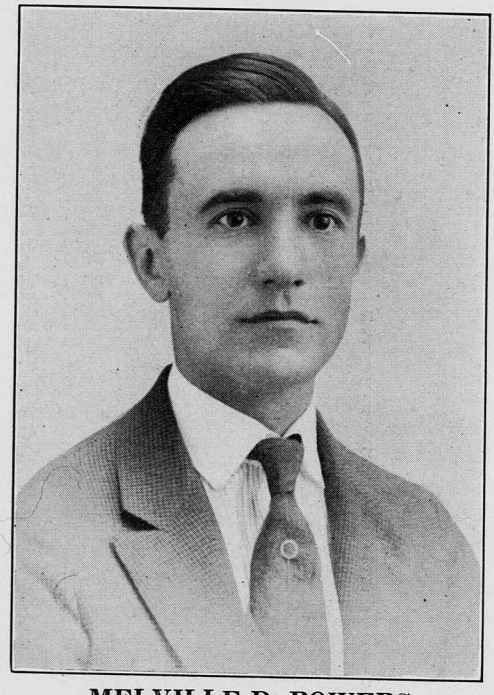
The theme of the Annual Conference this year was "Better Business in Agriculture," with special reference to utilizing economic facts, development of cooperative marketing, farm management and farm accounting. In addition, emphasis was placed upon public speaking and development of personality. The writer is more and more convinced of the necessity for Extension workers to improve themselves in the presentation of Extension material and in selling themselves and their work to the public.

Records of Office Work

The office work is constantly increasing. With the development of the Service and addition of specialists and assistants in the field, additional burdens are placed upon the office force. Notwithstanding the grouping of clerks in one office so that no time is lost, there is need for additional assistance to meet the demands of the specialists. Miss K. G. Connolly, Administrative Assistant, supervises the office force, keeps financial records, and otherwise aids in detail administrative matters.

During the year a total of 38,675 first-class letters have been mailed from headquarters, while the total pieces of mail number 90,050. In all 117,206 first-class letters and pieces of mail were sent out by the Extension Service throughout the State.

In closing this discussion of administrative project, I am grateful to members of the Service for their sympathetic and loyal support and especially for the able assistance rendered by Miss Venia M. Kellar and associates, Miss K. G. Connolly, Mr. E. I. Oswald and Dr. F. B. Bomberger, all of whom have assisted in the administration of the Service.



MELVILLE D. BOWERS

A CAPABLE, CONSCIENTIOUS WORKER.
A VALUED ASSOCIATE.
A THOROUGH GENTLEMAN.
A TRUE FRIEND.

PUBLICATIONS

A. H. Snyder, Extension Editor

AS mentioned elsewhere, the Service sustained a severe loss in the death of Mr. M. D. Bowers on April 9, 1929, who served as editor and in charge of the publication project. Mr. Bowers was an individual who made himself useful and who put his all into the work he was doing, whether directly connected with his specific duties or not. He was the friend and helpmate of every member of the Service. He was very capable and industrious and possessed a charming personality. His loss has been felt in every department of Extension Service Work.

After several months search we were able to secure the services of Mr. A. H. Snyder, who had previously been associated with "Successful Farming" as editor of that successful farm magazine. His previous experience in the Extension field as a soil expert and his publicity training, especially fitted him to take up the editorial work of the Service. He became associated with the Service Sept. 1, 1929 and is fulfilling every expectation in taking up the work Mr. Bowers developed.

Mr. O. R. Carrington has served as Assistant in publicity during the past year and has rendered unusually capable service in meeting the emergency that was presented earlier in the year.

As Editor of the Service, Mr. Snyder reports:

Extension publications issued during the year consisted of bulletins, circulars, information cards, the "Extension Service News," regular weekly and special news releases to the press of the State, and miscellaneous printed and mimeographed material.

Bulletins and circulars were issued at irregular intervals, according to the need for them. Information cards were used in somewhat the same way, when conditions demanded that certain specific information be widely disseminated in the most concise form and in limited time. The "Extension Service News," a four-page publication, was issued regularly each month and sent to approximately 4,000 leading farmers. It is designed to give information regarding activities of the Extension Service and timely information about important events and developments in agriculture as they apply to Maryland.

News Service—An information news service was maintained throughout the year and approximately 200 news releases were

prepared. In line with the policy of former years, these releases were sent to County Agents for adaptation and localization before being published in the local papers of the several counties. Special releases were sent out for such events as the Rural Women's Short Course, 4-H Club Week, County Agents' Conference, etc., and special articles were prepared for farm papers and other publications. Both the daily and local weekly press, and the farm papers have given liberal space to releases from the Extension Service.

Illustrations—Owing to the untimely death of Mr. Bowers, the photographic work which was being conducted in cooperation with Mr. Reuben Brigham, Visual Instruction and Editorial Section, Office of Cooperative Extension Work, U. S. Department of Agriculture, has been somewhat delayed. Nevertheless, a number of specialists assisted in obtaining several fine series of pictures, which form the basis for valuable film strips. The foundation has been laid and much material collected for illustrative purposes and rapid development can be made in that line.

Radio—Broadcasting of agricultural radio programs from Station WRC, in Washington, was continued during 1929, in cooperation with the Radio Division of the U. S. Department of Agriculture. Short talks on timely agricultural topics were given five days each week, the only change from former years being that during the last few months a talk on marketing has been substituted for one of the regular farm topics each week.

In addition, by the fine cooperation of Station WMAL, in Washington, a weekly radio program has been presented. Members of the staff and faculty have joined with Extension workers in providing this program.

Publications Issued—During the fiscal year ending June 30, 1929, the following publications were issued: Bulletin 44, "More Tomatoes from Fewer Acres," 24 pages, 2,000 copies; Bulletin 45, "Forestry Planting in Maryland," 24 pages, 1,000; Bulletin 46, "More Tomatoes from Fewer Acres," (reprint), 24 pages, 5,000; Bulletin 47, "Something on Floors," 16 pages, 2,000; Circular 54 (revised), "Winter Egg Production," 12 pages, 3,000; Circular 63 (revised), "Certification of Seed Potatoes," 12 pages, 3,000; Circular 64 (revised), "Mexican Bean Beetle," 8 pages,

6,000; Circular 65, "Forestry Exhibit," 8 pages, 750; Circular 66 (revised), "Maryland Poultry House," 8 pages, 3,000; Circular 67, "Raising Calves on Skim Milk Powder," 6 pages, 3,000; Circular 68 (revised), "The Control of Wheat Smut," 12 pages, 8,250; Circular 70, "The Art of Furniture Arrangement," 8 pages, 5,000; Circular 71, "Law Providing for the Suppression and Control of Insect Pests and Plant Diseases in Maryland," 6 pages, 500; Circular 72, "Windows and Their Decorations," 16 pages, 5,000; Information Card 21, "Peach Tree Borer," 2,500; Information Card 22, "Apple Sprays for Maryland," 5,000; Information Card 23, "Peach Spray Program for Maryland," 5,000; Information Card 24, "Mexican Bean Beetle Control," 5,000; Fourteenth Annual Report, 84 pages, 5,000 copies; Extension Service News issued monthly, 4,000 copies each month.

COUNTY DEMONSTRATION WORK

E. I. Oswald, District Agent

DEMONSTRATION work has been conducted in all of the 23 counties in the State during the past year. Maryland is proud that this record has been maintained for the last eleven years. In addition to a regular county agent in each of the 23 counties, six counties are now provided with full-time assistants who devote a large portion of their time to boys' club activities. Two part-time assistants are being added to the force in two other counties where special projects need immediate attention.

County demonstration work, as in the past, was conducted on a regular project basis by county agents and specialists, as outlined by the Extension Service of the University of Maryland and the U. S. Department of Agriculture.

There is an increasing demand for work among the colored people in different sections of the State. At the present time the Service maintains three workers, a local man agent and woman agent in the Southern section of the State and a local man agent working in the southern Eastern Shore counties.

It has been the aim of the District Agent and subject matter specialists, working with the county agents, to plan the work in the various counties so as to meet the needs of the State, the counties and the local communities. Maryland conditions are so varied that it is necessary to plan programs which meet local

demand and for sections, rather than for the entire State as a whole. Considerable advance has been made during the past year in establishing State programs on a commodity basis with tobacco, Irish potatoes, canning crops and dairying.

County Programs of Work—Marked progress has been made in all the counties during the past year in county program building. The District Agent visited each county at the beginning of the year for the expressed purpose of planning county programs. Where farm bureaus or granges existed, programs were arranged jointly. In counties where no such organization existed, the county agents cooperating with farmers' federations made up of community clubs, were used as the medium for carrying extension work into all communities. In addition to establishing a regular county program of work, each of the 23 county agents, together with their assistants, planned a calendar program for each of the twelve months. This program was rigidly adhered to.

Campaigns—Special campaigns were planned in 14 of the 23 counties. The object of such campaigns was to make Extension work more effective in solving some of the most important problems. The five-county alfalfa campaign launched two years ago was successfully continued through the past year and resulted in an increase of about 2,500 acres of alfalfa.

The same five-county group inaugurated a dairy improvement campaign, emphasizing more efficient feeding and the erection of more and better silos. As a result, some of the counties reported as many as 30 new silos erected during the past year.

In conjunction with the State-wide canning crops program, cloth-covered tomato plant-bed campaigns were conducted in three counties resulting in the growing of better tomato plants and also earlier setting in the field. The counties reported more than 40 demonstrations of the use of cloth-covered frames. Between seven and eight million plants were grown in the State this year in covered beds.

All tomato growing counties participated in a campaign to further the tomato industry by enrolling 128 tomato growers in 13 counties in the ten-ton tomato project. The object was not to increase production but to grow more tomatoes from fewer acres. The highest yield in this contest was 13.75 tons per acre.

A "Grow Healthy Chicks" campaign was launched in 9 counties and the eight recommended practices were followed on 85 farms. Demonstrations were planned and accurate records kept showing a decrease of nearly 60% in the mortality of young chicks.

The 1,500-pound litter contest was featured as a campaign in several swine producing counties and resulted in much interest on the part of club members and swine growers. Twenty-six entered this contest from 8 counties.

Marketing Activities—In line with the increased emphasis which has been placed upon marketing by State and Federal agencies and the intense interest of farm people in marketing problems, county agents have greatly intensified their efforts in that direction. These activities have included assistance in the inspection and grading of products, the dissemination of economic and market information, assistance in the organization of marketing groups, the improvement in quality of products, the location of favorable markets for specific products, and a wide range of services in connection with the numerous commodities grown by Maryland farmers.

County agents have found carefully-planned farm tours an effective method for presenting results of demonstrations

Tours—State-wide tours were conducted by county agents and specialists, whereby demonstrators were given an opportunity to visit sections of this state and other states in poultry, sweet potato and dairy industries, and in marketing.

County tours were conducted for potato growers, poultry raisers, timber owners, tobacco growers, sheep growers, canning crops growers, and orchardists.

Visual Education—Through special arrangement with the Division of Visual Instruction of the U. S. Department of Agriculture, a course of instruction in picture taking was given the extension force in four of the counties. The object was to enable county agents and home demonstration agents, with the equipment already at hand, to take pictures of demonstrations and club work. As a result, these counties have a satisfactory set of pictures illustrating demonstration activities. Special pictures were also taken in the counties in cooperation with specialists, and a series of slides telling the story of demonstration work is now being arranged.

Motion pictures and lantern slides were furnished by the Extension Service of the U. S. Department of Agriculture to the county agents who used them extensively at field meetings and tours, and also in conjunction with their local community programs and meetings.

Special Demonstration Projects—One of the most outstanding accomplishments of a demonstration nature was the growing of certified seed potatoes in Worcester and Somerset Counties. This work was conducted by 96 demonstrators and resulted in the growing of 40,488 bushels of certified seed. The most important result of this work was not the fact that a large quantity of seed was grown and sold at an advanced price, but that growers are being taught the nature of disease and insect injuries and how to combat them.

The potato industry was further assisted with demonstrations showing the advantage of high-quality seed from known sources and from different localities. This work was conducted in four of the 23 counties. Greater emphasis on the seed potato industry is planned and demonstrations are now being arranged to impress the importance of tuber unit and tuber index work.

Soil fertility is a paramount consideration in all of the 23 counties. The use of lime and fertilizers was demonstrated in every county, dealing with the crops of local importance. Soil testing campaigns were conducted, whereby thousands of samples of soil were tested for lime requirements.

Improvement in the beef cattle industry was emphasized in many counties. This is especially true in seven counties where baby beef club projects were conducted by 4-H club members.

Their beeves were shown and sold at the Baltimore Livestock Show. This Show do doubt will do much to stimulate interest in the beef cattle industry.

The sheep industry was given much attention in many of the counties where the early lamb industry is emphasized. Docking and castrating demonstrations were held by county agents, cooperating with the livestock specialist.

In the five southern Maryland counties where tobacco is the most important crop, special emphasis was placed on the sterilization of seed beds to control wildfire and fungus diseases, and fertilization of the crop. Demonstrations were conducted in each of the five counties. Several tours were held giving tobacco growers an opportunity to visit adjoining counties and witness demonstrations in control of disease.

Farm engineering projects were conducted in all of the 23 counties. The construction of permanent farm buildings, the building of silos, dairy houses, poultry and hog houses, with cooling tanks, water troughs, and water systems, were the most important of these projects. Septic tanks were used as demonstrations in several of the communities.

An untiring effort has been made by many of the county agents to assist farmers in keeping farm accounts. Books have been provided by the Service and distributed to most of the 23 counties. The U. S. Department of Agriculture, Division of Farm Management, has assisted in this important work.

Orchardists throughout the State were assisted by orchard management demonstrations of fertilizing, pruning and spraying. In addition, a very efficient spray service was conducted, by which orchardists were kept in touch with insect and disease developments and advised as to proper times for spraying.

In Counties where cantaloupes and cucumbers are grown, special emphasis was placed by the county agents on dusting and spraying and also grading and marketing.

Much emphasis was placed this year on control of the Mexican bean beetle. Field meetings were held and demonstrations and tests were conducted with the use of various sprays and dusts. Very efficient work was done and the control measures were satisfactory.

Farm woodlot owners and timber operators were assisted by county agents and the forestry specialist in a program of better

woodlot management. This program was rather comprehensive and dealt in detail with local situations, such as reforestation, the proper cutting of timber, and treatment of abandoned, or cut-over, areas.

Below is given a brief statistical summary of the agents' work.

Number of farm visits made in conducting Extension Work	17,212
Number of calls on agents for assistance	48,641
Number of individual letters written	56,945
Number of demonstration meetings held	1,303
Number of people who attended demonstration meetings	21,105
Number of other cooperative educational meetings held	1,953
Number in attendance at these meetings	321,282
Number of training meetings held for local leaders	132
Number in attendance at these meetings	3,299
Number of Extension Schools and Short Courses held	29
Number in attendance at these Extension Schools and Courses	2,631

COUNTY AGRICULTURAL AGENTS

The following agents are employed in the respective counties of the State:

County	*Name*	*Headquarters*
Allegany	R. F. McHENRY	Cumberland
Anne Arundel	STANLEY E. DAY	Annapolis
Baltimore	H. B. DERRICK	Towson
Calvert	JOHN B. MORSELL	Prince Frederick
Caroline	T. D. HOLDER	Denton
Carroll	L. C. BURNS	Westminster
Cecil	J. Z. MILLER	Elkton
Charles	P. D. BROWN	La Plata
Dorchester	WM. R. McKNIGHT	Cambridge
Frederick	H. R. SHOEMAKER	Frederick
Garrett	J. H. CARTER	Oakland
Harford	H. M. CARROLL	Bel Air
Howard	J. W. MAGRUDER	Ellicott City
Kent	J. D. McVEAN	Chestertown
Montgomery	O. W. ANDERSON	Rockville
Prince George's	W. B. POSEY	Upper Marlboro
Queen Anne's	E. W. GRUBB	Centerville
St. Mary's	G. F. WATHEN	Loveville
Somerset	C. Z. KELLER	Princess Anne
Talbot	R. S. BROWN	Easton
Washington	M. D. MOORE	Hagerstown
Wicomico	J. P. BROWN	Salisbury
Worcester	R. T. GRANT	Snow Hill

Assistant County Agents

Allegany	MILO S. DOWNEY	Cumberland
Baltimore	W. H. CARROLL	Towson
Montgomery	A. A. ADY	Rockville
Prince George's	PERRY E. CLARK	Upper Marlboro

Local Agents

Southern Maryland	J. F. ARMSTRONG (Col.)	Seat Pleasant
Eastern Shore	L. H. MARTIN (Col.)	Princess Anne

NEGRO WORK

Local agents, both men and women, have been active in their efforts to improve conditions among the negro population of the State. A whitewash and clean-up campaign was inaugurated on the southern Eastern Shore of Maryland and proved very beneficial in improving the surroundings of many negro farms. Farmers' Institutes and community shows have also been the means of bringing about contacts between colored farmers and the Extension Service, both in Southern Maryland and on the Eastern Shore. Some very good demonstration work has been done with men and women and with the boys' and girls' 4-H clubs. Many of these activities have been in cooperation with the eastern branch of the University of Maryland, located at Princess Anne. One additional negro worker was added to the force during the past year.

HOME DEMONSTRATION WORK

Miss Venia M. Kellar, State Home Demonstration Agent

EACH year sees new achievements in home demonstration work in Maryland. The general rural public is fast becoming Extension minded. Due to this fact the appreciation and the vision of what an Extension program means to a community has been proven by results obtained from the people themselves. Through questionnaires, surveys, and by cooperating with other public agencies, the needs of a county can, in a measure, be determined in advance of launching a program. County rallies, achievement days, county tours, exhibits and news articles all are important factors in creating a desire for help. They also help in determining results and checking on the spread of influence.

The policy of reaching the largest number of home-makers is accomplished through organized groups. Subject matter is presented to these groups through demonstrations. Most of the counties carried but one project for the year, this project being correlated with follow-up work for the 1928 project.

Community Activities—Community programs change each year to meet the new interests and activities of the community. Most community work is done in cooperation with Granges and

Farm Bureaus. These are the two organizations composed of family groups.

Achievement Days—Sixteen achievement days were held in 16 counties, with programs and reports planned to mark a milestone reached in the county project. Such programs serve as a measuring stick to check results and determine further progress. Achievement day programs consist of exhibits, emphasizing some phase of the project, stunts, playlets and music by the women. In addition to achievement days, 35 county tours were held for the purpose of seeing homes that carried out changes recommended by the agent in house furnishing, home management, and yard improvement.

Annual Rural Women's Short Course—The seventh annual Rural Women's Short Course was held from June 17 to 22. Five hundred and fifty-six women from 21 counties registered for the course. Seventeen were day students and 539 registered for full-time, living in dormitories on the campus and in fraternity houses adjoining the campus. On visitors' day there was a registration of 110, making a total of 666 attending.

The Annual Rural Women's Short Course offers farm women of Maryland an opportunity to participate in an educational, social, and recreational program planned especially for them

This short course offers to the farm woman of Maryland an opportunity, for a small registration fee, to spend a week on the

campus of her State University, where lectures and demonstrations are held each day on subjects that are of interest to her as a home maker. The recreation events and the social program for the week add much interest and real value to the general program.

Women sent as representatives from their clubs, with expenses paid, give upon their return home two demonstrations they have attended. This requirement creates interest and helps to develop leadership.

Instruction is given each year in foods and nutrition, clothing, health, home management, house furnishing, landscape gardening, parliamentary law, citizenship, music, story telling, poultry and home dairying.

Thirty-eight women received certificates on the last day for having attended the short course for four years.

Five women were given recognition as Master Farm Home Makers.

Home Makers' Markets—Two markets sponsored by farm women are located in Caroline and Kent Counties. Canned products, home-baked goods and dressed poultry are featured at each market.

News Letters—Home demonstration agents in 15 counties send monthly news letters to all club women and other women in their counties who ask to be placed on the mailing list. Part of the news for these letters is furnished by the club publicity chairman. The letters contain club news, county Extension news, notice of office demonstrations, club meetings, and helpful suggestions on the county project work.

Landscape Gardening and Yard Improvement Contest — A yard improvement contest, sponsored by the home demonstration department, was started early in 1928 to extend over a period of two years closing in October, 1929. The purpose of the project was to stimulate interest in development of home grounds. Two hundred and seven women entered the contest. Contestants were required to make a preliminary report at the beginning of the contest, portraying, as far as possible, the situation at the

outset and the improvement to be made. At the end of the year a progress report was required and at the close of the contest a final report was submitted.

In determining the relative merits of improvements made, counties having more than three contestants were required to appoint local judges for the purpose of selecting the three most promising home grounds. These were later visited and inspected by the specialist and awards were based upon the inspections and upon the reports previously made.

CLOTHING AND HOME FURNISHING

Miss Helen Shelby, Specialist

HOME furnishing has been given greater emphasis during the last year than it has ever received in this State before. A project designed to assist home makers in making their living rooms more attractive and comfortable was prepared by the specialist and carried out in cooperation with home demonstration agents. This project was selected as the major activity in 16 counties.

Demonstrations were given in the arrangement of furniture, color schemes for the home, how to decorate the windows, pictures for the home, how to make chair and couch covers, reclaiming old furniture, refinishing and care of floors and linoleum, and many other features that make homes more pleasant and livable.

Results of such a project cannot be estimated in a short time, as they are measured in satisfaction, rather than in figures showing the number of changes made. Furthermore, it requires time not only to do the work, but also to arrange to finance it. Some idea of the progress that has been made may be obtained from reports sent to home demonstration agents by women in 16 counties, showing the number of rooms in which information given at the demonstrations has been used.

Selection of wall paper	1,403	rooms
Decoration of windows	2,780	"
Arrangement of furniture	2,063	"
Arrangement of rugs	865	"
Hanging of pictures	2,023	"
Color schemes	1,210	"

The following table is also an indication of the activities of those sufficiently interested in the project to make reports.

Article	Bought	Made	Refinished	Discarded
Rugs	1,265	630	157	411
Curtains	2,851	2,004	190	471
Draperies	960	1,044	113	195
Couch or Chair Covers	341	753	143	102
Pictures	869	401	235	1,385
Furniture	1,542	165	1,481	326
Accessories	1,157	537	230	264

A clothing project, which was emphasized in most of the counties last year, was carried as a major project in only one county this year. Other counties gave some attention to follow-up work along this line. A compilation of figures found in reports of home demonstration agents gives the following facts.

478 demonstrations were given in clothing.
1,020 reported improvement in wardrobe planning.
899 reported improvement in altering patterns and fitting garments.
323 guide patterns were made.
297 entered local $2.00 dress contests.
171 used a score card in judging costumes.
81 club members assisted in giving demonstrations.

A report of the number of garments made at home shows 8,502 dresses for adults and 3,249 for children; 478 hats for adults and 26 for children; 351 coats for adults and 70 for children; and 4,366 undergarments for adults and 1,662 for children.

Kits of illustrative materials prepared by the specialist for use of demonstration agents were very effective in carrying out the work.

NUTRITION AND HOME MANAGEMENT

Miss Margaret McPheeters, Specialist

FOLLOW-UP work of the previous year's project in home management has been continued through the year. The kitchen contest, the constant checking and reporting of improvements made, and the installation of water systems were phases especially emphasized. Interest was created among the women

and many improvements made in 1928, but more of the improvements that take time and money were made in 1929.

A State kitchen contest has been conducted for the past two years. More than 150 kitchens have been visited and individual help given the home makers. A kitchen in Dorchester County, over 100 years old, received first place.

A number of kitchen tours were conducted, along with tours in home furnishing. Kitchens were so chosen that each one featured certain improvements. In this way, every woman present probably found some improvement that she could apply to her own kitchen.

An experiment in canning was continued for the purpose of checking on several products the women have difficulty in keeping, and to find the best and easiest method of canning in the different parts of Maryland. Three to six women in each County assisted in the experiment. The pressure cooker and hot water bath methods were used. In the hot water bath, the non-acid vegetables were canned without acid and with acid. The same foods were canned by all women and under as nearly the same conditions as possible. In general, results showed that the pressure cooker method was absolutely safe and that the hot water bath was also successful, when care in canning was observed, showing that spoilage was due mostly to carelessness and unsanitary conditions.

Some of the outstanding home improvements are as follows: Lighter and more attractive kitchens by means of extra windows, glass in doors and lighter walls and floor coverings; electricity, gas and running water installed; large equipment arranged into work centers, labor saving devices, various built-in conveniences as closets, shelves, work centers about sink, etc.; utensils and supplies moved near the place where used, breakfast nooks, rest corners, back porches made into kitchens, etc.

Table of Results

Number of counties taking project, as major	4	—as minor	12
Number of clubs taking projects, as major	42	—as minor	127
Number enrolled in clubs, as major	1,138	—as minor	3,033
Total number of women enrolled	4,171		

Improvements—A total of 9,059 improvements in kitchens were reported for the year, and consisted of the following

Walls	397
Woodwork	338
Floor	328
Glass in door	85
Changed or added windows	194
Window curtains	458
Rest corner	140
Installed water in kitchen	59
Sink	109
Electricity	192
Electrical appliances	333
Artificial lights changed	401
Shelves—new work surfaces	150
Cleaning closets	18
Coat closets	14
Pantry, or closet for storing food	25
Kitchen cabinet	71
Work table	175
Table on rollers	142
Tea wagon	36
Stool	172
Woodbox	42
Built-in cupboard about sink	33
Built-in ironing board	14
Ironing board of another type	18
Refrigerator or cooler	69
Garbage pail	26
Clock in kitchen	186
Dish drainer	91
Pressure cooker	34
Waterless cooker	63
Washing machine	73
Rearranged equipment for convenience	529
Labor saving devices	1,122
Small equipment	884
Large equipment	97
Breakfast nooks	12
Kitchen made over	72
Porch or room made into kitchen	22
Planning of work	94
Improved practices in home management	1,741

Result of Follow-Up Work in Foods and Nutrition—5 Counties Reporting

Number of improved practices in food preparation	46,519
Number of improved practices in nutrition	1,390
Total	47,909

Amount of Food Preserved this Year—9 Counties Reporting

Number of quarts of fruits and vegetables canned	53,320
Number of quarts of meat canned	6,693
Number of quarts jelly and preserves	19,128
Number of quarts fruit juices	2,342
Number of quarts pickles and relishes	6,742
Number of pounds dried fruit and vegetables	1,854
Number of pounds meat cured	112,488
Total number of quarts of food preserved or canned	88,225
Total number of pounds of dried or cured food	114,342

DISTRICT AGENTS' WORK

Miss Edythe M. Turner, District Agent
Miss Florence Mason, District Agent

MARYLAND has two district agents—one located at Salisbury on the Eastern Shore, the other at College Park. The agent on the Eastern Shore has organized and developed home demonstration work in two counties, Somerset and Queen Anne, in addition to doing supervisory work in seven counties. The agent on the Western Shore has organized the work in Calvert county and carried on a supervisory program in 16 counties of the State.

The three counties developed this year have eighteen groups with a total membership of 468 new people who have never had the work previously.

Both agents have been responsible for training home demonstration agents in the subject matter and demonstrations pertaining to refinishing of floors and of furniture.

A filing system, a system of office procedure, and a report plan for reporting to the State office on supervisory visits to the agents have been worked out.

The supervisory program has consisted of helping the agents with formulating their year's program of work, of attending spring rallies or council meetings where a talk or demonstration on some phase of the work has been given. In company with the home demonstration agent, clubs have been attended where the district agent might observe the way in which the work was presented to the group by the agent and the reaction of the women.

The need to reach more people resulted in the district agents working with an agent to develop the use of project demonstrators, in order that the county home demonstration agent might have free time to develop new communities.

Summary

Number of women's home-makers' clubs	267—plus 6 colored
Number of women enrolled	6,864—plus 107 colored
Number of counties having county organizations of rural women or home makers' clubs	14
Number of local leader training schools for women	54
Number of county office demonstrations	23
Number of county achievement days	61
Number of women attending Rural Women's Short Course	666
(Full time 556)	
(Visitors 110)	
Number of county tours	35
Number of homes reached by landscape gardening project	403

Home Demonstration Agents

Following is a list of home demonstration agents at present employed by the Extension Service:

County	*Name of Agent*	*Address*
Allegany	MAUDE A. BEAN	Cumberland
Anne Arundel	MRS. G. LINTHICUM	Annapolis
Baltimore	RUTH NESBITT	Towson
Calvert		Prince Frederick
Caroline	BESSIE SPAFFORD	Denton
Carroll	AGNES SLINDEE	Westminster
Cecil	PRISCILLA PANCOAST	Elkton
Charles	MARY GRAHAM	La Plata
Dorchester	HATTIE BROOKS	Cambridge
Frederick	HELEN PEARSON	Frederick
Garrett	ETHEL M. BENTHEIN	Oakland
Harford	CATHARINE MAURICE	Bel Air
Howard	MYRNE HENDRY	Ellicott City
Kent	HELEN SCHELLINGER	Chestertown
Montgomery	BLANCHE CORWIN	Rockville
Prince George's	ETHEL REGAN	Hyattsville
Queen Anne's		Centerville
St. Mary's	ETHEL JOY	Leonardtown
Somerset		
Talbot	MRS. OLIVE K. WALLS	Easton
Washington	ARDATH MARTIN	Hagerstown
Wicomico	MARIAN SWANSON	Salisbury
Worcester	LUCY WALTER	Snow Hill

Assistant County Home Demonstration Agent

Frederick	ERNESTINE CHUBB	Frederick

Local Home Demonstration Agent

Charles, St. Mary's and Prince George's	MRS. ARMINTA WATSON	1812 Vernon St., Washington, D. C.

Garden Specialist

Carrollton & Lafayette Aves.	MRS. ADELAIDE DERRINGER	Baltimore

Following is a summary of home demonstration work for the year, as reported by the county home demonstration agents:

Number of home visits made in conducting Extension Work	5,544
Number of calls on agents for assistance:	
Office	5,142
Telephone	12,382
Number of individual letters written	23,414
Number of demonstration meetings held	3,601
Number of people attending demonstration meetings	51,715
Number of training meetings held for local leaders	158
Number of leaders in attendance	1,095
Number of Extension schools and short courses held	2
Number in attendance at these Extension schools and courses	28
Number of county encampments held:	
Junior (7 counties)	4
Number in attendance at these encampments	248
Number of other Extension meetings attended and not previously reported	1,037
Number in attendance at these meetings	104,716

GIRLS' CLUB WORK

Miss Dorothy Emerson, Girls' Club Agent

GIRLS' club work has made normal progress this year. New clothing bulletins prepared by the clothing specialist have helped girls and leaders to reach higher standards in their work.

Club girls of five counties attended a 4-H camp. The objectives of these camps are educational and may be regarded as part of the regular 4-H training program. Special training is given to older club girls, so that they may take an active part in planning and carrying out community and county 4-H programs.

At Club Week some especially fine demonstrations were given and the program was planned to give the girls more of the cultural side of life.

A garden project was started this year and the work done by girls who enrolled is an encouragement to continue the program. Local leaders continue to carry on 4-H Club work in many communities quite successfully.

The Home Demonstration Department is looking forward to another year of progress and more worth-while achievements for 4-H Club girls in their home-making demonstrations.

Summary of Achievements

National 4-H Club Congress 1929.

Hazel-Atlas	Maryland	First	$100
Hazel-Atlas	Individual Jars		120
Vegetables	Maryland	Third	10
Children's garments	Maryland	Fourth	10
Window Treatment	Maryland	Fifth	6
Clothing Budget	Maryland	Fourth	15

Girls selected for out-of-State trips because of exceptional club records of achievement:

Camp Vail and Leaders' Training School, Springfield, Mass.

Eight girls attended the exhibition.
All placed in the Inter-State Judging Contest.
All assisted with management of the fried-chicken booth.

National 4-H Club Camp

Two girls attended in 1929.

1929 Statistics

Number of girls' clubs	241
Girls enrolled	3,067
Number garments and articles made	9,980
Number jars fruits and vegetables	17,249
Number girls active club members (4 or more years)	365
Number local leaders	146
Number demonstration teams trained	69
Number girls attending county camps	182
Number girls attending Club Week	278

4-H BOYS' CLUB WORK

E. G. Jenkins, State Boys' Club Agent

WITH a total of 2,752 members enrolled in the 23 counties, 4-H club work in agriculture, called "Boys' Club Work" in Maryland, increased 14% in 1929, exactly the same advance which 1928 held over 1927. This enrollment includes 2,463 boys and 287 girls, and represents every county in the State.

Seventy-nine per cent (79%), or 2,262 club members, actually carried to completion 2,390 demonstrations. Probably this number of demonstrations completed is low, as several county agents do not report such demonstrations as pastures, corn for feeding stock, and the like. Such activities are considered part of the dairy, swine, or poultry demonstrations.

The following table gives very conservative estimates, taken from records, of the value of these demonstrations.

	Values by Projects		
	White	*Negro*	*Total*
Dairy	$143,256.00	$	$143,256.00
Swine	17,048.00	11,275.00	28,323.00
Poultry	37,421.00	9,359.00	46,780.00
Sheep	1,137.00		1,137.00
Corn	1,832.00	8,630.00	10,462.00
Potatoes	7,076.00	4,478.00	11,554.00
Tobacco	16,528.00	3,442.00	19,970.00
Home Gardens	2,823.00	2,400.00	5,223.00
Market Gardens	6,031.23		6,031.23
Baby Beef	6,731.40		6,731.40
Other		1,537.50	1,537.50
Total	$239,833.63	$41,121.50	$281,005.13

Supervision—In supervising this work the State Boys' Club Agent has spent 155½ days in the field and 136½ days in the office; traveled 2,156 miles by auto and 10,224 miles by train and bus; made 140 contacts with county agents; inspected 149 demonstrations, assisted at 38 demonstration and other meetings and made 114 public addresses.

Projects—Dairy club work leads all other projects, the increase being more than 58% over 1928. The 777 members reported a total of 923 dairy animals. Nearly every club-owned dairy animal is registered and tuberculin tested. Through club work better cattle are being brought to many farms and better dairy practices are being followed.

Much of the swine breeding stock in the State is produced by club boys. A majority of the 275 boys engaged in this project specialize on this.

While there is not so much publicity attached to the poultry work as to that in dairy husbandry, it is quite likely we shall some day find that 4-H Club work in this important field has done more for Maryland farm folks than any other one thing. County agents frequently point out communities where many adults are standardizing their home flocks and practicing methods advocated by the Extension Service, as a direct result of club demonstrations. The 481 demonstrations in 1929 included nearly 28,000 birds, practically all high-class stock. Many successful club members, who have been in the work at least two years and demonstrated their ability to handle good birds, have been per-

mitted to buy pedigreed cockerels from the Government Farm at Beltsville.

Tobacco was the only other project which showed any considerable money return to club members. This is a highly specialized project which seems to need much improvement in methods. Boys being more willing than men to try new methods, have been demonstrating the value of Extension advice to an extent that challenges adult growers in several communities. This seems to be one good means of improving this money crop and at the same time provide incomes for boys. The 117 boys produced nearly $20,000 worth of tobacco in 1929, an average of $170.70 each.

An outstanding project in potato club work was reported by the Garrett County Agent. Twenty-two boys were enrolled in a certified seed club, some of whom were furnished seed secured by the Extension Service specialist, purchased for them by the Baltimore and Ohio Railroad.

Twenty of the twenty-two boys followed successfully requirements and had their seed certified. What will not be required on home farms has been sold at high prices.

County agent and group of 4-H Potato Club boys, on their way to the National Club Congress at Chicago

A most interesting and instructive exhibit was made by these boys at the county fair. Winners in this event were also winners of a Baltimore and Ohio Inter-state contest and a State exhibit was made up which placed fourth at Chicago in competition with exhibits from all the leading potato-producing states. The exhibit was shown at the State Crops School, also, not in competition.

This project should do much to convince seed potato growers in Garrett County that certification may be attained by following the practices recommended by the Extension Service.

Less than 10% of the adults who undertook similar seed productions in the same county, succeeded in securing certification of their potatoes.

Negro Club Work—In the negro club work some excellent results were accomplished, especially in corn, poultry and swine. Work done by Local Leader Martin in these lines and in using club members on a clean-up and white-washing campaign is having a helpful effect in a dozen negro farm communities on the Eastern Shore.

Inspirational Activities—Maryland 4-H club folks have had part in a number of Inter-state and National affairs and made very creditable showing in each.

Our policy in all these affairs is to send the best in manners, training, character, as well as project achievement, and to bring back something worth-while to Maryland.

Delegations were sent to the National Poultry Show, New York City, in January; National 4-H Club Camp, Washington, D. C., in June; Camp Vail, Eastern States' Exposition, Springfield, Mass., in September; National Dairy Exposition, St. Louis, Missouri, in October; and, to the National Club Congress in Chicago in November. Our members had leading parts, or won distinction in contests, at all of these. Seven Jersey calves sent to the National Dairy Exposition through the kindness of Mr. Hoagland Gates placed well in both individual and group classes.

The Timonium Fair awarded $300 toward expenses to the National Dairy Exposition and the Maryland Bankers' Association, through Judge Frank I. Duncan, chairman of the Agricultural Committee, again awarded $1,000 to aid with expenses

of other trips and awards. The Baltimore and Ohio gave six champions an "all-expense" trip to the National 4-H Club Congress and Livestock Exposition in Chicago.

Club dairy exhibits at Timonium Fair were much the best ever shown. More than 150 club boys and girls exhibited cattle and swine, or contested in the judging. Several club-owned cattle placed high, even taking first ribbons, in open classes and the 140 well-prepared and well-bred animals in the club section occasioned wide and favorable comment from officials and visitors.

Club Week was a big success. More than ten per cent of the State enrollment attended. Many older folks—ex-club members—came, and two score All Star members did about every service required to carry on the big time.

This is without doubt the highest grade affair for rural youth in Maryland. All sorts of standards are advanced at Club Week. Leadership is inspired, initiative developed, vision acquired, practical education encouraged, and good manners and good morals are practiced and lived on the campus of the University of Maryland during "the Five Glorious Days" in August.

Demonstration education was given by specialists each morning and several educational trips were taken to the Agricultural Department and Beltsville Experiment farms. The "Bankers' Trip" to Washington was again enjoyed as a closing event.

Challenge—Maryland 4-H club work is offering a real challenge to the rural youth of the State. It provides an opportunity for him to become a producer, an owner, a partner with Dad, a young business man. He may learn new ways, find new and interesting local social activities, make new friends, sharpen his sword for contests.

Many have caught new vision during 1929 and are going on from goal to goal as they realize the National aim of 4-H club work—"To Make the Best Better."

AGRONOMY

F. W. Oldenburg, Specialist

THERE are 430,000 acres in hay and 892,000 acres in pasture or a total acreage greater than in corn and wheat combined. Therefore, hay and pasture problems are of great importance in

Maryland agriculture, and a small increase in yield per acre or carrying capacity means millions of dollars to the State.

Much interest in better pastures is developing in the East, including Maryland. On thousands of farms in this State there are permanent pastures that have been neglected for years, some of them for a generation or more. Always taking off and putting nothing back has left the soil poor and sour, and the pastures thin and weedy. Half a million acres of permanent pasture on the better land, classed as plowable, have a carrying capacity of only one cow to two acres. With proper treatment and fertilizing the carrying capacity could be doubled to the great profit of dairymen.

Work to show the possibilities of top-dressing was started this year. Definite result demonstrations were put on in 10 representative areas. These demonstrations consisted of five plots of 1/10 acre each, fertilized at the rate of 450 pounds per acre as follows: (1) phosphorus only; (2) phosphorus and lime; (3) phosphorus, potash and lime; (4) complete fertilizer, 1-2-2 ratio; (5) complete fertilizer, 1-1-1 ratio. Part of the plots was fenced off, and samples cut from time to time to compute yields. The five demonstrations from which complete records were obtained gave the following results:

Plot 1 had double the yield of the check. Plot 2 had three times and plots 4 and 5 each had approximately four times the yield. The quality was improved, also. Growth on the check contained 16% protein and on the complete fertilizer plots 20%.

During June, field meetings were held in Harford, Carroll and Howard counties, and exhibits designed to interest farmers were put up at the fairs at Timonium, Bel Air and Hagerstown.

These demonstrations will be continued for a number of years.

Hay—Despite the increased acreage in legumes in recent years, the average yield per acre of hay was increased but little, averaging 1.29 tons. Neglect to rotate crops properly or to fertilize properly are often reasons for this low yield.

Top-dressing demonstrations were carefully planned and three or four acres each were established in Howard, Montgomery and Cecil Counties. Top-dressing with about 300 pounds of the equivalent of a 5-8-5 fertilizer gave an increase of one and a quarter tons of hay.

Wheat—Low yields of wheat are often due to lack of proper fertilization. A number of top-dressing demonstrations were conducted. Six of these were of five acres each. Threshing records were taken for yields. There was one demonstration in each of the following counties: Dorchester, Cecil, Howard, Queen Anne's, Caroline and Talbot. The average gain was six bushels per acre from one hundred pounds per acre of nitrate of soda.

Thirty-five other wheat top-dressing demonstrations of one-quarter acre each were conducted in eleven counties. The yield records obtained from seventeen of them gave an increase of 7.5 bushels per acre.

During June the wheat fields of twenty-one farmers in nine counties were visited and inspected by the Extension Agronomist for purposes of certification.

Wheat of three growers was found worthy of certification; and that of six other growers was put in the listed class.

Feed and Legume Schools—In cooperation with the Extension Dairyman, Feed and Legume Schools were held in the following counties: Caroline 7, Worcester 2, Wicomico 8, Howard 7, Harford 3, Cecil 3, and Dorchester 6. In cooperation with Mr. Snyder of the Soils Department, six soil fertility schools were held in Garrett County.

Alfalfa—An alfalfa campaign started last year in the five southern Eastern Shore counties has been continued. Three of the counties report a total increase of 1,800 acres. In Howard and Cecil counties alfalfa was also emphasized during the year, Cecil County reporting a gain of 244 acres.

Sweet Clover—The acreage of sweet clover pasture is increasing in all parts of the State as farmers are becoming acquainted with this legume. Frederick County reports a gain of 500 acres this year, Cecil County 208 acres, and Caroline County 180 acres.

Corn—Although seed corn selection was not a major project last spring, due to the good condition of seed, considerable time was spent on seed corn in connection with the International Grain and Hay Show held early in December and the State Corn Show held early in January in Baltimore. Growers were visited and helped with their seed corn and their exhibits. Corn at 20 corn

shows and county fairs was judged and demonstrations in selection given at a majority of them.

Wheat Smut Control Work—A total of 87 wheat fields were visited during June to determine the prevalence of smut. It was found that the percentage of fields having smut had not decreased, but the average amount of smut had decreased. Weather conditions at threshing time were such that the threshing operation eliminated much of the smut. Consequently, there was little dockage and, therefore, little demand for treating wheat.

The wheat smut circular was revised and about 7,500 copies printed. Circular letters were also prepared, advising farmers to treat their wheat.

Barley Smut Control Work—In the fall of 1928, nine demonstrations in six counties were put on, using Ceresan. Results showed that this dust gives good control.

ANIMAL HUSBANDRY

K. A. Clark, Specialist

ANIMAL Husbandry Extension work featured four projects in 1929. They were (1) a litter contest, (2) a Beef Calf Club, (3) Sheep Improvement, and (4) a "Quality in Meats" Campaign. In carrying out these projects the Extension Animal Husbandman has had the cooperation and assistance of members of the subject matter department and County Agents, and also the Pennsylvania and Baltimore and Ohio Railroads, the Baltimore Union Stock Yards Company, the National Live Stock and Meat Board, and the U. S. Department of Agriculture.

Maryland Litter Contest—Twenty-six litters were entered in this contest, representing eight counties. The goal was to produce a litter of pigs which at 150 days of age weighed 1,500 pounds. Eight entries successfully completed the contest,—just double the number that completed it last year. Meetings held at demonstrations connected with weighing the litters and otherwise, were well attended by interested farmers.

Beef Calf Club—Results of this project indicate that production of baby beef is possible and highly practicable under Mary-

land conditions and more profitable than the large, coarse, rough cattle that are fattened on many farms. Many steer feeders have been quick to recognize this fact and there are now on feed no less than 800 high-quality calves that will make excellent baby beef next summer and fall. Club members this year had 24 Shorthorn, seven Herefords, and four Angus steers. Thirty-five of the boys' steers were exhibited and sold at the Baltimore Live Stock Exposition, one steer bringing $30 a hundred and the entire 35 selling for an average of $17.75 a hundred.

Sheep Improvement—Two outstanding features of the sheep program during the year were the Annual Ram Sale at Centerville on July 16, and the cooperative purchase in Montana of 279 purebred Hampshire breeding ewes and five rams.

Approximately 400 people attended the ram sale and the list of purchasers represented Kent, Baltimore, Talbot, Charles, Queen Anne's, Dorchester, Cecil, Caroline and Wicomico Counties. The Extension Animal Husbandman managed the sale and also assisted farmers in buying and selling at least 40 other rams, making a total of not less than 105 head placed in flocks of the State. Eighteen growers cooperated in the shipment of 279 purebred ewes from Montana.

Quality in Meats—The "Quality in Meats" campaign has been carried on in several towns and cities through Gas and Power Companies as a medium for the distribution of literature furnished by the National Live Stock and Meat Board. It is estimated that 15,000 meat consumers have been directly affected. Two articles on methods of curing meat on the farm have been written and given publicity.

Baltimore Live Stock Exposition—The First Annual Baltimore Live Stock Exposition on October 22-24 marks an important step in the progress of the livestock industry in Maryland. It offers farmers and stockmen in this section similar advantages and opportunities for education that state fairs and livestock shows in other parts of the country afford the people in their respective sections. It brings to attention of producers the facts of today and causes them to lay aside older, but less economic, practices. It presents in a concrete manner the possibilities in livestock production in this State.

HORTICULTURE

A. F. Vierheller, Specialist

TO produce fruit economically, costs of production must be lowered, and the program of work for 1929, was planned to encourage higher yields per tree, along with consistent improvement in quality. The work was arranged to include emphasis upon the use of nitrogen fertilizers, the increase of organic matter in soils by use of cover crops, and improvement of size and color of fruit by thinning of fruit and by heavier pruning of older trees than is ordinarily practiced.

The 1929 peach crop was very heavy, and prices were not consistently good. Some varieties of apples set well, and in spite of weather conditions, the 1929 apple crop was of good quality. Thinning of apples was practically unnecessary in most cases, but peaches were rather heavily thinned.

Demonstrations of Use of Fertilizers—Nitrogen fertilizers, especially nitrate of soda, have been demonstrated in nine orchards in Maryland during the past year. Some of these orchards after five years of demonstrations with nitrogen fertilizers are showing excellent benefits from this practice, as indicated by spur and wood growth, and quality and quantity production.

Demonstrations of Pruning — Demonstrations of pruning methods, were carried on in 53 orchards during the year. Older trees are still pruned a little heavier in the older commercial orchards, and results show better production and quality. Pruning involved all types, ages, and varieties of fruit trees, as well as grape vines.

Cover Crops and Fruit Thinning—While no direct data were obtained by the specialist as a result of the use of cover crops, indications are that cover crops have improved soil texture, and have added to its water-holding capacity, fertility, and its ability to make maximum use of fertilizers that are applied. Thirteen orchard management demonstrations have confirmed the above statement.

Thinning of fruit was necessary during the season, only in the case of peaches, and peach growers have adopted this practice.

In case of apples, the set was such that but few demonstrations were necessary and these were given during orchard visits.

Miscellaneous—Fifty-three method demonstrations were held, the total audience numbering 216. Twenty-four result demonstrations covering orchard management, pruning and fertilization, were carried during the year. Sixty-six visits were made to these demonstrations, and 226 advisory visits were made to other farms and orchards. Seven fruit and vegetable shows were judged, four indoor meetings, three field meetings and two horticultural schools were held, the total attendance being 480 people. Replies to numerous inquiries on fruit growing, writing of magazine and news letter articles, a radio talk, and various other publicity articles and activities have engaged some of the specialist's time.

ORNAMENTAL HORTICULTURE

W. R. Ballard, Specialist

EIGHTY-FOUR requests for landscape demonstrations were received during the year. This is the largest number since work of this character has been carried on by the Extension Service. Work with 65 of these demonstrations has been undertaken and the remaining requests have been filed for future attention. Thirty-three of these demonstrations are home grounds, 16 school grounds, and 16 of miscellaneous character.

The Yard Improvement Contest started in 1928 was brought to a close early in October, 1929. The purpose of the project was to stimulate interest in the improvement of home grounds. The plan was instituted by the Southern Planter and carried on under the supervision of the Extension Service. Two-hundred and seven women entered the contest. A prize of $50 was offered by the Southern Planter for the woman making the greatest improvement in her yard in the two-year period.

Mrs. J. W. Kelbaugh of Hampstead, Carroll County, was awarded first prize for the State. In addition to this, honorable mention was given in each county to contestants who were considered to have made commendable improvements.

The plan for 4-H Flower Growing Clubs for girls was elaborated, making it a four-years' course. Certain requirements

were mapped out, suggestions for club meeting demonstrations were prepared, and a list of suitable plant material was included. Interest in this project seems to be growing, although the unusually dry season handicapped the work somewhat.

Fifty-five visits were made to demonstrations to advise owners, and 209 visits were made to other homes or farms. Fifty addresses were made on subjects relating to ornamental gardening. The total attendance was 2,450.

Mimeographed information sheets have been issued monthly to Extension workers and interested gardeners. While originally intended primarily to furnish helpful material for County and Home Demonstration Agents, requests from home owners to be placed on the mailing list have been so numerous as to require about 650 copies each issue. Gardeners have appreciated this service and its field will be extended.

The usual demands for judging have been met and a total of 170 gardens, shows and exhibits were inspected.

The specialist has continued to act as Secretary-Treasurer of the Maryland Vegetable Growers' Association. A monthly news letter has been issued for the benefit of its members.

DAIRY HUSBANDRY

John A. Conover, Specialist

THE dairy industry continues to increase in volume and interest. Three dairy marketing organizations handled 47,653,461 gallons of milk in 1929,—an increase of 2,190,375 gallons over 1928. Notwithstanding this increase, the price in all three markets has remained about the same.

4-H Dairy Calf Clubs—Interest in 4-H dairy club work has grown. Seven hundred and seventy-six calf club members were enrolled, with a total of 964 calves. This is an increase of 284 members and 392 calves. Club calves were shown at all county fairs and at Breeders' meetings in Queen Anne's, Caroline, Carroll, Talbot, Harford, and Frederick counties. One hundred and two calves from nine counties were shown at Timonium.

For the first time, Jersey club calves were shown at the National Dairy Show in St. Louis. This was made possible by the

generosity of Mr. Hoagland Gates of Elkton and the State Jersey Cattle Club. Phil Harrison of Talbot County won third place on a senior heifer and fourth place on a junior heifer, and George Stiles of Montgomery County won eighth place in the junior heifer class. The club herd was placed sixth. A State judging team placed seventh in the National contest—29 teams competing.

Herd Improvement Associations—The number of herd Improvement associations increased from eight to eleven. Average production of the associations is 7,812 pounds of milk and 315½ pounds of fat. This is an increase of 743 pounds of milk and 33½ pounds of fat over records for the preceding year. Seventy-four herds averaged 300 pounds, or more, of butterfat for the year and thus qualified for the Herd Honor Roll Certificate issued by the National Dairy Association.

Purebred Sires—Approximately 153 bulls have been placed through efforts of extension agencies, and plans have been made to carry on a purebred bull campaign in some of the Eastern Shore counties.

Construction Work—More barns, silos, and dairy houses have been built this year than in any previous year. Forty-seven cement stave silos were erected by one firm and about 25 monolithic silos and a number of wood stave and tile silos were built. A total of 194 silos were constructed during the year.

Barns totaling 192 have been remodeled, or built. In one county alone 45 barns are in process of remodeling. Sixty new dairy houses were built in one county. The insulated concrete tank, construction of which was demonstrated last year, has proved so successful that the Baltimore City Board of Health is requiring all of the Baltimore shippers, who do not have running water, to put in a tank of this kind.

The Scott-Powell Dairy Company opened a new receiving station at Snow Hill in October, 1928. This is a new line of farming for that locality and considerable time has been given the project. Demonstrations of the construction of dairy houses and cooling tanks were held in several communities and plans were furnished for barns, also. About 25 dairy houses, most of them

of concrete blocks, have been constructed in this county, 12 new barns have been built, and about 15 barns have been remodeled. Meetings have been held in all communities in the county at which feeding and management of dairy cattle and quality milk production have been discussed. This milk plant handled two and one-half million pounds of milk the first year, of such quality that beginning January 1, 1930, the plant will operate on a grade A basis.

Fairs—Assistance was given at a number of fairs by judging dairy cattle, conducting 4-H judging contests, and furnishing exhibits. Extension feed and legume schools were held in eight counties.

ADVANCED REGISTRY TESTING

H. C. Barker, Specialist

ADVANCED Registry Testing during the year has shown increased interest and a gradual growth in the work. Four regular and five part-time supervisors were employed. All of the testing was done on a flat-rate basis, and the amount paid by breeders takes care of all the direct supervision and a part of the office expense.

The four Ayrshire herds completing their first year's work in Herd Test averaged 328 lbs. fat and 8,077 lbs. milk, figured to mature equivalent.

A greater number of Guernsey breeders are testing than of any other breed. The past year showed a 10 per cent increase over 1928, and 66 cows finished year records.

Holstein testing showed a slight increase in number of cows on test. Fifty-seven semi-official records were completed, besides the 135 cows which finished Herd Test records and 20 seven-day records, making a grand total of 212 cows. The five herds completed the year in Herd Test with an average of 9,633 lbs. milk and 321.6 lbs. fat. In this division, Class C. (milked twice daily), a junior three-year-old heifer, Rolo Korndyke Pet, owned by Charles Wertheimer, Frederick, Md., led all cows, of all ages, for production with a total of 12,559 lbs. milk and 423.3 lbs fat. In the seven-day division, two Maryland State Champions are among the 20 records completed.

In the Jerseys we find the greatest increase in testing, there being 30 per cent more breeders and double the number of cows as compared with those on test in 1928. Twenty-five Register of Merit records were completed.

Breed Promotion Work—Twelve summer meetings and shows were held, besides many county club meetings, including those of the Ayrshire, Holstein, Guernsey and Jersey breeds. Three Guernsey Field Days and the Holstein Summer Picnic, attended by 2,500 dairymen, showing 250 head of cattle, were probably the most outstanding of these meetings.

Two new county clubs were organized, besides the service given to 258 breeders with personal herd problems.

A Maryland State Jersey herd (eighteen head), was sent to the National Dairy Show, St. Louis, Mo., with Hoagland Gates, Elkton, Md., a prominent Jersey breeder, in charge. This herd included a Maryland 4-H Calf Club herd of five animals.

4-H Judging—For this work the State was divided into two sections, and assistance in coaching the various county teams was given the county agents by Mr. Conover and Mr. Barker. Twelve teams competed at Timonium and the four high boys represented Maryland at the National Dairy Show, St. Louis, Mo. L. M. Merryman, Sparks, Md., and Dr. DeVoe Meade, University of Maryland, and Mr. Conover gave valuable assistance with the final coaching of the team, Mr. H. M. Carroll, Bel Air, in charge.

General Dairy Work—Assistance was given in the selection of three Holstein bulls and one Guernsey for Maryland breeders besides that given in selecting forty bulls (Holsteins, Jerseys, Guernseys) sent on the Baltimore and Ohio Bull Train.

Because of milk turned down at receiving plants in Queen Anne's and Talbot Counties, considerable work was done with 189 dairymen in those sections. A survey showed that the main trouble was lack of roughage grown, and that there was a shortage of approximately 1,400 tons of hay. These dairymen were visited and given advice on general dairy practice, but particularly on best methods of increasing their hay supply. In most cases they were advised to increase their acreage of soybeans and a later check-up showed that an additional 1,000 bushels of soybeans were planted last spring.

MARKETING

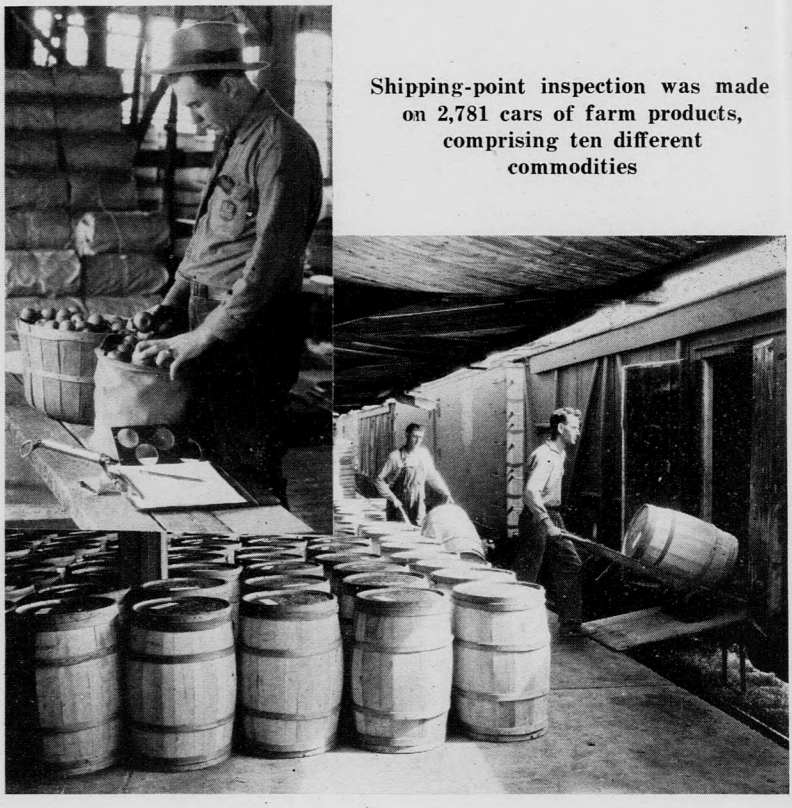
F. B. Bomberger, Specialist and Chief Department of Markets
S. B. Shaw, Specialist and Chief Inspector

THE Department of Markets has carried on a wide range of activities during the year. Producers of virtually all kinds of farm commodities have shown much greater interest in marketing problems than ever before and demands upon the Service have been correspondingly increased. An unusually wide variety of problems have required attention from specialists and county agents and various methods of procedure have been followed in attempting to solve them.

Results of previous years have demonstrated so conclusively the value of standardization as a factor in marketing farm products and demand for the inspection service offered by the Department has increased so constantly, that it has been necessary to expand that line of work. Tangible progress is evident each year in the form of greater efforts on the part of producers to put on the markets products which more nearly meet the requirements of recognized standards.

Shipping-Point Inspection—Federal-State shipping point inspection has been given in Maryland for the last six years. Since its inauguration in 1924 there has been a continual increase in the number of applicants requesting the service and in the number of products inspected. The type of service rendered during the past year has varied with the requirements of the applicants. There is a noticeable tendency, however, toward the use of a full-time inspector at individual packing houses, as producers are realizing more and more the benefit derived from having an impartial analysis of their harvesting and packing operations made by a reliable man.

Thirteen applicants requested this type of service the past year and in each of these instances the inspector not only issued certificates on the cars loaded, but also supervised the grading and packing, thereby enabling the grower to load his cars according to grade requirements.



Shipping-point inspection was made on 2,781 cars of farm products, comprising ten different commodities

The service began on May 6 with strawberries and continued until sometime in December with the inspection of sweet potatoes. During this time, ten commodities were inspected for 63 applicants and the total number of cars was 2,781.

The number of cars of each commodity inspected is shown in the following table and also the number of cars in each grade:

Product	No. Cars	U. S. No. 1	U. S. No. 2	U. S. Com.	Part U. S. No. 1	Bulk	Failed to Grade	Truck Shipment Unlisted
Apples	489	283	28	75	56	2	45	.....
Peaches	254	189	.....	.....	36	...	29	.....
Pears	10	10	.....	.....	.....	...	.....	.....
Strawberries	455	67	.....	.....	225	...	4	159
I. Potatoes	1,256	774	.....	.....	261	...	221	.....
S. Potatoes	180	125	.....	.....	17	...	38	.....
Tomatoes	85	65	.....	.....	15	...	5	.....
Cantaloupes	6	4	.....	.....	2	...	.....	.....
Cucumbers	29	28	.....	.....	.....	...	1	.....
Mixed Veg.	17	14	.....	.....	3	...	.....	.....
Total	2,781	1,559	28	75	615	2	343	159

Financial arrangements for the service continued as heretofore. Salaries of inspectors, expense of reporting, and Federal and State overhead items of expense were pro-rated as incurred in each particular deal. The total cost of inspecting 2,781 cars was $11,710.51, an average cost of $4.20 a car. Where inspectors are assigned for full time at a packing house, the cost per car was somewhat higher than the average, depending upon the tonnage handled, but the service rendered was of considerably more value than where the inspector simply inspected the cars as they were loaded.

Market Reporting—In order to assist producers in distributing their products more intelligently, information regarding market receipts and prices was issued in four different types of market reports. These included a daily market news service, a daily city market report, a weekly market report, and monthly news letters.

Daily Market News Service—In cooperation with the U. S. Bureau of Agricultural Economics, the Virginia State Department of Markets, and the Peninsula Produce Exchange, daily market news reports were issued from Pocomoke City, Md. The service began May 16 and continued until August 24. During this time 113 daily reports were issued on four products,—strawberries, Irish potatoes, cucumbers, and cantaloupes. At the beginning of the season, there was a mailing list of 2,045, which increased to 2,870. This increase of 40% indicates the growing demand for service of this kind.

Daily City Market Reports—The report issued daily on the Baltimore market, covering fruit, vegetables, live poultry, eggs, and grain, has been continued. This work is also carried on in cooperation with the U. S. Bureau of Agricultural Economics, and the information is used on their leased wire service. The Western Union Telegraph Company is also furnished daily information on conditions in the livestock market and, during the season, with daily reports on the Irish potato situation on the Eastern Shore. A printed daily report goes to a mailing list of more than 800 and is published in four Baltimore papers and one in Richmond, Va. While the mailing list is comparatively small, the Baltimore papers carrying these reports are circulated in practically every rural community in the State, distribution in some parts being made by airplane. Thus, growers and shippers in virtually all sections receive the information promptly enough to make it of real value.

Weekly Market Reports—A special weekly market news report was issued on the Soft Winter Wheat Market Situation, containing brief paragraphs on the world situation, the national situation, and the local situation, including Maryland, Virginia, and Pennsylvania, and the Philadelphia, Richmond, and Baltimore markets. Arrangements were made whereby this information was obtained from the U. S. Bureau of Economics and sent to all county agents in time for them to give it to their local press in time for publication each week.

Monthly News Letters—Publication of a Market News Letter each month has been continued and it has been sent to a mailing list of about 450 persons. It gives information regarding various marketing activities of State and nation-wide interest and requests for it are constantly increasing.

Wheat Inspection—Arrangements were finally completed this year for the inauguration of a limited inspection service on wheat marketed on the Eastern Shore. In cooperation with the Maryland Experiment Station, the Baltimore office of Federal Grain Supervision, and the County Commissioners of Talbot County, this work was begun at Easton. Owing to lack of equipment and funds, the service was established on a purely experimental basis

and continued for a period of approximately six weeks. One-hundred and thirty-two inspections were made and the same number of certificates issued. Fifty-six of those inspections were made on grain in bins, or granaries; thirty-eight, on grain carried or loaded on cars or boats; and thirty-four were made on samples brought or sent to the laboratory by growers.

County officials, grain dealers, and farmers all exhibited a very helpful spirit of cooperation in the establishment and conduct of the grain inspection service. It proved valuable to merchants who were buying and selling wheat, because it established definite standards of quality of the grain purchased, beyond dispute by any party. Many farmers expressed their appreciation of the value of the service, because it gave them a definite picture of the quality of grain they were offering on the market.

Seed Certification — Certification of Maryland-grown seed, through the Seed Certification Board, has continued during the year, in cooperation with other branches of the Extension Service. Crops included in this work were Irish potatoes, tomatoes and wheat.

In the capacity of financial agent for the Board, the Department of Markets collected all fees and procured and distributed such supplies as tags, seals, and other necessary equipment.

Irish Potato Certification—There has been a substantial increase in Irish potato certification, as may be seen by the following tabulation:

	1928	1929
Number acres inspected	340	580
Number growers qualifying	39	95
Number bushels certified	21,581	40,488

While most of this work was done in Worcester County, the work in Garrett, Somerset, Allegany, Howard, Anne Arundel and Wicomico Counties continued in a most satisfactory manner.

Wheat Certification—Wheat fields were inspected for 23 growers in eight counties. Records are not available showing the acreage or yield per acre of certified or listed seed wheat.

Tomato Seed Certification—The Extension Service has been cooperating with the Tri-State Packers' Association for the last four or five years in an effort to make available a supply of re-

liable seed of a desirable variety for tomato growers in the Tri-State territory (Maryland, New Jersey, and Delaware). This project has met with appreciable success. Many canners have expressed the opinion that the quality of raw stock in this territory has been improved as a result of this work. The growing demand for good seed, particularly of the Marglobe variety, called for considerable increase in the scope of seed-saving activities in 1929. The total seed acreage for all varieties in 1928 was about 50 acres. This was increased to approximately 145 acres in 1929. Of the 145 acres, 125 acres were planted to Marglobe, and the remaining 20 to Radebaugh.

Seed-saving on the Marglobe acreage was conducted according to regulations set up by the Maryland Seed Certification Board, with the result that most of this seed met the requirements for certification and will be distributed as such. More than 5,000 pounds of certified tomato seed was produced in 1929.

Cooperative Marketing—The Department of Markets, in cooperation with the commodity specialists and county agents, has rendered a wide variety of services in connection with development of the cooperative movement in the State. Numerous problems are constantly confronting organizations that are formed and in operation, and new groups are continually becoming interested in the organization of cooperative associations which they believe will improve their conditions. In either case, there is need for definite assistance, and such assistance has been given in one or more of the following forms: the formulation of plans for organization, the holding of meetings for explaining the purposes and advantages of the special cooperative under consideration, and, after its organization, advising with officers and directors in regard to plans and business policies.

Due to a combination of factors, chief of which was the passage of the Federal Marketing Act, and the appointment of a Federal Farm Board, interest in cooperative marketing has been greatly stimulated and calls upon the Department for information and advice have multiplied accordingly. It has been necessary to assist organizations already in the field in making such adjustments as to enable them to conform to the general marketing program of the Farm Board. As an example, the Extension Service, at the request of the directors of the Agricultural Cor-

poration of Maryland, assisted in preparing plans whereby the charter of that organization might be amended so that it would conform to the provisions of the Capper-Volstead Act and the organization thus be eligible for membership in the Farmers' National Grain Marketing Corporation, for which it has applied.

Dairy Cooperatives—Recently, in response to requests from the Maryland-Virginia Milk Producers' Association and the Maryland State Dairymen's Association, the Extension specialist in marketing prepared plans for a merger of these two dairy cooperatives into a super-cooperative, to be known as the Eastern States Milk Marketing Association. It is the aim of these and other cooperative dairy organizations of the Eastern Coast States to coordinate their marketing policies in order to better serve the producers and consumers of this area.

We are proud of the development of these dairy organizations. They have demonstrated the many advantages to be gained for producers by cooperative action. The price of milk in the Baltimore market has only been changed once since 1923. This indicates the stability that a cooperative can give to an industry.

Maryland Tobacco Growers' Association—During the past year the Maryland Tobacco Growers' Association conducted an intensive campaign to increase its membership and volume of business. Every assistance was rendered by our specialists and county agents in the conduct of special meetings, and otherwise, to arouse growers to the value of this organization to the industry in Southern Maryland.

Baltimore Livestock Show—While not strictly a cooperative marketing development, the establishment of the Baltimore Live Stock Show exemplifies the result of practical cooperation on the part of the Extension Service with all interests and agencies involved in promoting the livestock industry of the State.

At the request of the Agricultural Committee of the Maryland Economic Survey, an organization representing the Baltimore Association of Commerce and the State of Maryland, a special Live Stock Committee was set up, representing the Maryland Stockmen's Association, the Baltimore Meat Packers Association, the Baltimore Stock Yards Co., the Baltimore Live Stock Commission Merchants, the Agricultural Development Depart-

ments of the railroads, and the University of Maryland. Specialists of the University outlined plans for several projects designed to improve the quality and reduce the cost of Maryland Live Stock production. Adoption of these plans led to the establishment of the Baltimore Live Stock Show, which held its first exhibition in October, 1929, and is now scheduled as an annual event.

Results of this cooperation of livestock growers, commission men, stock yards, packers, State and city governments, and University specialists are bound to be far-reaching in their effect. After quality has been improved and the cost of production lowered, the way may be paved for actual cooperative marketing of livestock.

Marketing Tours—The Extension Service and State Department of Markets, in cooperation with the Baltimore and Ohio Railroad, arranged for a tour of New York markets last October. The tour was definitely outlined and three leading farmers from each of twelve counties, together with Extension representatives, visited various markets in New York City handling fruits and vegetables, poultry and poultry products, and livestock; also refrigeration plants.

The purpose of the tour was to acquaint leading farmers with the manner in which produce is handled in the large markets, the character of containers used, and particularly, the standardization and grading of products not graded or standardized. The tour was most successful and arrangements are now contemplated whereby a group of leading farm women may be given a similar opportunity.

The Washington Market Situation—For the past three years representatives of the Extension Service have worked intensely with farm groups near Washington in an effort to secure proper market facilities for producers of this area. With the Government taking over the space previously used as a Farmers' Market and dedicated for this purpose by Congress in 1870, more than 500 producers in Maryland have been practically without facilities for selling their produce to consumers of Washington. Temporary stands have been used with permission of the District authorities.

Under protest from producers, Congress passed a bill last year authorizing the appropriation of $300,000 for the purchase of a site in Southwest Washington. This site is wholly unacceptable to 98% of our producers, their objection being that they do not desire to transport all of their produce through the city of Washington to a distant point on the Potomac River, where it would then be re-distributed and carried back to the consuming centers. Moreover, the farmers feel certain that consumers generally will not visit this distant point in Southwest Washington, the position of Maryland farmers being that they prefer any site North of Pennsylvania Avenue that the District authorities or Congress may designate.

Consumers, as reported by the Citizens' Association, a large majority of the commission merchants, and a vast majority of producers in Maryland protested against the Southwest site. The more important commission men, handling 6,000 of the 7,000 carloads of fruits and vegetables that come to Washington, decided to locate at Fifth and Florida Avenue, N. E. During the past year they have been erecting facilities requiring investment of over $500,000.

Farmers of this area have formed themselves into an organization and are now engaged in trying to persuade Congress and the District authorities to secure an adequate piece of land adjacent to the wholesale commission men at Fifth and Florida Avenue.

The Extension Service has devoted considerable effort to this acute marketing problem involving the interest of our producers as well as consumers of Washington. We are still in hopes that the proper authorities will realize the desirability of affording these farmers an opportunity to offer their produce to consumers of Washington at the most convenient and practical point in the city.

POULTRY HUSBANDRY

W. H. Rice, Specialist

NO change in the State Extension organization or in allied projects or teaching and experimental work, have occurred during the past year which affected this project.

The chief problems of poultry husbandry attacked and solutions stressed during the year were as follows:

1. High chick mortality. 2. Low seasonal and annual egg production. 3. Poor housing. 4. Poor breeding stock. 5. High mortality of turkeys. 6. 4-H Club work. 7. Marketing of turkeys.

1. High Mortality of Chicks—A campaign stressing the following eight points in sanitation as a solution to this problem was conducted during 1929 as the "Grow Healthy Chicks" campaign:

1. Clean Chicks.
2. Clean Brooder house.
3. Clean ground.
4. Clean litter.
5. Clean feed.
6. Clean management.
7. Separate sexes.
8. Keep records.

This campaign constituted the major sub-project and received most attention during the year. A total of approximately 175 farmers and poultrymen, brooding about 175,000 baby chicks, were enrolled. The work was completed, in whole or part, by 127 farms representing 115,647 chicks. Eighty-five farms, involving 82,521 chicks, submitted complete records in the fall of 1929. Averages of results of the work follow:

	Percentage of chicks	
	Lost	Housed as pullets
Farms following all practices	9.49	43.75
Did not use clean ground	16.23	38.27
Did not use clean chicks	19.75	38.28
Did not use clean chicks nor clean ground	22.34	37.77
Did not use clean chicks nor clean management	35.06	20.39
Did not follow 3 or more practices	27.73	33.70
Average for all farms	19.81	37.57

2. Low Seasonal and Annual Egg Production—This work was divided into two phases, consisting of Summer Feeding and Culling demonstrations, and a Farm Egg Record Project, involving the use of a specially prepared poultry calendar.

a. Summer Feeding and Culling—Under this phase 22 method demonstrations were held in 7 counties. Twelve result demonstrations were started, of which 7 demonstrations were completed, a total of 16,720 birds being involved in all demonstrations. In the result demonstrations, egg production was increased an average of 14% during the six-weeks' period.

b. Farm Egg Record Project—A special poultry calendar covering monthly and yearly egg production, as well as all receipts and sales in a business record form, with seasonal suggestions on poultry management, was prepared and distributed through county agents to cooperators.

One hundred and ninety-one farms, involving about 100,000 birds and all of the 23 Maryland counties, are enrolled in this work, most of which are reporting to this office regularly each month the number of birds on hand, eggs produced, and birds died or sold during the month.

3. **Poor Housing**—Time and emphasis given the "Grow Healthy Chicks" work and the Farm Egg Record Project prevented much time and effort being spent on this phase of work. However, plans for poultry houses have been distributed to many poultrymen and new Maryland type houses have been constructed in many parts of the State.

4. **Poor Breeding Stock**—This problem is being attacked by a cooperative activity involving culling of flocks and selection and banding of birds suitable for breeding, and the testing of same for Bacillary White Diarrhea or Pullorum infection. The agencies cooperating in this work are the Maryland State Poultry Association, Maryland State Bureau of Markets, and the Poultry Department, the Department of Bacteriology and the Extension Service of the University of Maryland.

Twelve thousand, one hundred birds of 17,000 examined met requirements for certification and were banded for the 1929 breeding season. Of this number, 951 were given one test for pullorum infection. Three flocks, consisting of 306 Bronze turkeys, were also examined, 200 of these birds meeting requirements.

For the 1930 breeding season about 23,000 birds have been examined and about 17,500 of this number met requirements and were banded, about 3,200 being given one test for pullorum disease.

5. **High Mortality of Turkeys**—A solution to this problem similar to that for chicks, has been employed.

Meetings and tours were held in nine counties. Nineteen result demonstrations were started of which 17 were completed, a total of 6,665 birds being involved.

Mortality in demonstrations following the largest number of recommended practices averaged about 12%, while in those following the fewest, mortality averaged about 55%.

6. 4-H Club Work—Approximately 25% of the specialist's time was devoted to 4-H poultry club work. Several 4-H club members have carried on demonstration phases of work on the same basis as adults, especially the "Grow Healthy Chicks" work. Several 4-H Club members are also using poultry calendars in the Farm Egg Record Project.

4-H poultry work was carried on in a total of 19 counties with 643 enrolled members, of which 481 completed the work for the year, with a total of 27,095 birds involved, valued at $37,421. This was an increase of 23% in completion over 1928. There was an average of 57 birds per club member, an average valuation of $77.80 per member as compared to $25.00 in 1922.

One State Judging Contest was held with 11 county teams and 35 members participating. Also, one sectional judging contest with two counties and 17 members competing and six county judging contests with 39 members competing.

The Maryland State 4-H Poultry Judging Team won second place in January at the National Contest, Madison Square Garden, New York, for the fourth consecutive year.

The State 4-H Poultry Exhibit was held in connection with the State Judging Contest. Twenty-one exhibition pens, totaling 105 birds were exhibited from 7 counties.

One State demonstration team was trained by the specialist during 4-H Club Week.

7. Marketing—Activities dealing specificially with marketing consisted of work with turkey growers of Kent County through their Association, the Kent County Chamber of Commerce, and Farm Bureau. The drop in the price of turkeys in early November did not encourage home dressing of turkeys, and the bulk of the 1929 crop was sold alive. Several cooperative shipments of both live and dressed birds were sold on consignment for the farmers by the Kent County Farm Bureau.

ENTOMOLOGY

E. N. Cory, Specialist
P. D. Sanders, Specialist

WORK in the control of insect pests has been carried on in close cooperation with the State Horticultural Department, with Dr. Cory as State Entomologist, and assistants employed jointly by the Extension Service and the Horticultural Department.

In addition to continuing as a major project the spray service for tree fruits, which has proved so valuable to growers in past years, efforts to control out-breaks of two serious insect pests have been major activities in 1929.

Mexican Bean Beetle—The Mexican bean beetle campaign, in scope and results, both in control and education, was the best that has ever been observed in this State. This was due to two factors. First, injury to the bean crop in 1928 brought growers to a realization that control work had to be done; and, second, a carefully outlined campaign of education in regard to this pest was carried on through the early season, followed by demonstrations in the field and personal service to all who requested such help.

At the Canners' School held at the college in February an exhibit of spraying and dusting machinery and materials was made by interested companies. Two-hundred and fifty intensely interested growers and canners attended a meeting devoted to the Mexican Bean beetle. County agents arranged for demonstrations by machinery and insecticide men and most of the companies fell in line with recommendations regarding kind of materials used and general principles governing their application that were issued in the form of information cards and circulars.

Infestation during the past summer was very early and extremely serious. On the Eastern Shore, early market snap beans escaped serious injury until after the first picking. From that time on the infestation increased rapidly and it became necessary to plow down the vines in order to prevent spread of the beetles. A large amount of dusting was done, even on the Eastern Shore where fields are level, and, of course, dusting was

necessary in the Western Maryland territory. A large percentage of growers who plant beans on an extensive scale adhered to recommendations of the Extension Service, but it was noticeable that there were about 20 materials sold in the State, most of which were much less efficient than those recommended, and in some cases distinctly injurious. An experiment to determine the relative efficiency of these 20 materials was conducted and a field meeting attended by 35 canners and growers was held to show the results.

Japanese Beetle—While there was an increase in population of beetles at points previously infested, there was practically no spread from these points, and only a few isolated infestations were found by scouts. As in previous years, a campaign of soil treatment was conducted and this year it was supplemented by spraying shade trees in the smaller infested towns, and by maintenance of approximately five thousand geraniol traps.

In view of the control measures carried out and a careful survey of the Japanese beetle situation maintained at all times, an agreement was reached with the Federal Plant Quarantine and Control Administration which prevented placing the State under Federal quarantine.

PLANT PATHOLOGY

R. A. Jehle, Specialist

THE aim of Extension Work in plant pathology is to assist producers in reducing their losses from plant diseases. This includes assistance in the production, maintenance, and marketing of seed stocks of superior quality. Efforts are also being made to improve upon methods used in the control of crop diseases by introducing new fungicides and seed disinfectants and new methods of plant disease control. Work was done on the control of diseases of barley, beans, cabbage, cantaloupes, corn, cucumbers, Irish potatoes, apples, peaches, tomatoes, sweet potatoes, tobacco and wheat.

Barley—Nine demonstrations were conducted in which seed barley was dusted with organic mercury dust prior to planting. On plots grown from untreated seed the percentage of covered

smut was from 0.14% to 23%. On plots grown from treated seed, it was from 0 to 1%.

Cantaloupes—Leaf Blight and Downy Mildew are the most destructive diseases of cantaloupes in Maryland. A regular spraying or dusting program, consisting of application of Bordeaux Mixture or copper-lime dust, was recommended, beginning when the vines begin to run and continuing until the fruit is ripe. Persistent marketing of cantaloupes from blighted vines establishes a bad impression of that product from this State and results in a generally lower level of prices for the entire crop.

Cucumber Diseases—Mosaic is the most serious disease of cucumbers. In 1929, eleven demonstrations were conducted and the disease was well controlled. The practice demonstrated was the destroying of disease carriers, such as pokeweed, ground cherry, milkweed, etc., followed by roguing out infected cucumber plants as soon as disease is detected. Losses from cucumber mosaic have been reduced from 50% in 1926 to 5% in 1929, or approximately a saving of $90,000 for growers during the year.

Irish Potato Diseases—Efforts of the Extension Service have resulted in the use of certified seed and the practice of seed treatment, crop rotation, and spraying by a steadily increasing number of potato growers. In order to encourage use of better seed, demonstration plots are grown each year using seed from various sources. Tours are conducted and growers are shown the results. The value of certified seed is stressed and there has been a phenomenal increase in production and sale of certified seed potatoes in Maryland, as well as its use. This year 177 growers applied for inspection and 96 growers had 40,488 bushels of seed eligible for certification, compared with 85 applicants, 39 of which had 21,581 bushels of seed eligible for certification last year.

Apple and Peach Diseases—Apple scab is the most difficult disease to control in Maryland orchards. The time when this fungus ripens its first spores not only varies from year to year, but varies in different parts of the State in the same year. As a result of several years study, a method of determining the time to spray by the stage of the fungus has been devised and leaves are examined microscopically in all parts of the State.

Growers are advised when to spray and results show that in almost every case where trees were sprayed when recommended, scab was successfully controlled. It is estimated that this work alone saved apple growers at least $500,000 this year.

Sweet Potato Diseases—Work on seed certification was continued and bin inspection of the 1928 crop was made. A total of 2,395 bushels of sweet potato seed was found eligible for certification. In 1929 five growers in Wicomico County and two in Worcester County, with a total of 33.5 acres, had their sweet potato fields inspected. Bin inspections for these growers will be made in 1930.

Tobacco Diseases—Mosaic and Wildfire are the two most destructive diseases that confront tobacco growers. During 1929 Wildfire was very severe in tobacco seed beds. However, it was well controlled by spraying with Bordeaux Mixture, or dusting with copper-lime dust. A survey of many tobacco fields was made and it was found that as many as 75% of the plants in some fields were infected with mosaic and the average percentage of infection for 21 fields inspected was 33.5%.

Wheat Diseases—The only work done on wheat disease control was the survey of a number of wheat fields. Of 35 fields where seed was treated, 30 were free from smut and 5 had less than 1%. In 52 untreated fields, 26 were free from smut, 12 had less than 1% smut, 11 had 1% to 5% smut, and 3 had more than 5%.

Prof. C. E. Temple, State Pathologist, gives a limited amount of time to general Extension work in the field, in addition to nursery inspection, when his teaching work permits.

FORESTRY

F. B. Trenk, Specialist

FORESTRY extension work in Maryland in 1929 embraced four principal lines of work:

1. Forest planting on waste, abandoned, or eroded land.
2. Thinnings and improvement cuttings in immature and cut-over stands of timber.
3. Proper logging methods and utilization in merchantable stands of timber.
4. The planting of windbreaks.

In the apportionment of time, these four sub-projects have not been given equal attention. It was decided late in 1928 that especial emphasis should be placed on forest planting in 1929, and consequently this work was vigorously pushed. Second in importance was educational and demonstration work in the management of immature and cut-over woodlands, and taken together, these two sub-projects were given fully 75% of the extension forester's time. Some time was spent with the maple syrup and sugar producers of Garrett County in work that involved both marketing and the management of mature stands of sugar maple trees.

Forest Planting—Reforestation is being looked upon to an increasing extent as the solution for two rather acute agricultural and economic problems, putting totally unproductive land into the producing column, and removing from the field of potential agricultural acreages that marginal land which is at once both unprofitable to farm, and contributory to certain crop surpluses. Twenty-two forest planting demonstrations were conducted in nine counties, in cooperation with the county agents, and these demonstrations involved the planting of 120,150 trees. Seven forest planting plans, involving 70 acres, were prepared, and 33 plantations in nine counties were re-inspected.

Two forest planting tours, each embracing three counties, were held during the fall. The first of these tours was on the Eastern Shore, and included Talbot, Caroline and Dorchester Counties. A second tour was in Southern Maryland, and included Calvert, Anne Arundel and Prince George's Counties. These tours were moderately well attended, and were preceded and followed by good publicity in county and State papers.

The high percentage of survival of trees in plantations, which has characterized planting demonstrations of the past two years, has been maintained. This is an important factor, which is resulting in enlarged plantations by those who desired to "experiment" on a small scale at the start.

County Forestry Councils—Late in 1928, an effort was made to secure more complete information regarding the idle land situation in several counties, and a degree of support from the

farmers and business men of those counties for the general forestry project, especially planting. Accordingly, forestry councils with these objectives were organized in Talbot, Caroline, Dorchester, Wicomico and Harford counties. As the name suggests, these councils are composed of men with whom the Extension agents may intelligently advise concerning development of the forestry project in their counties. It was decided to give immediate attention to the forest planting sub-project during the first year. Members of the councils took an active and valuable part in furnishing information on idle land in their communities, and in working up general interest in the planting work.

Woodland Thinnings and Improvement Cuttings—Group demonstrations, at which desirable forestry practices are shown in the woods, has been the principal method employed in developing this work. Thirteen woodland demonstrations were held in six counties, with a total attendance of 220 persons, or an average of 17 persons per demonstration. The demonstrations were conducted as tree judging contests, in which a given number of tagged and numbered trees were judged on the basis of their present suitability for fuel wood, the need for their immediate removal, to benefit the woodland as a whole, and their future value for more desirable forest products. At most of these demonstrations, two prizes, consisting of an axe and hatchet, were awarded to the persons who made highest scores as determined by the Extension forester.

Miscellaneous—Twenty-one lectures were delivered in eleven counties, to audiences totaling 1,131 persons. Of these, 15 were illustrated with lantern slides, or motion pictures, or both. An extensive educational campaign for windbreak planting was begun in Frederick and Washington counties late in the year, which will continue during the early months of 1930. A 24-page bulletin, "Forest Planting in Maryland," and a 12-page bulletin, "Profitable Management of the Young Forest" have been issued during the year. Although no 4-H Forestry club project has been organized, forestry demonstrations were given to the Federated Clubs of Harford County at the annual club camp, and other junior forestry work has been done at the request of Smith-Hughes Vocational Agriculture teachers.

CANNING CROPS

L. M. Goodwin, Extension Specialist
H. A. Hunter, Pathologist

A RATHER extensive program for canning crop improvement work was outlined early in 1929, and in the main, has been successfully carried out.

The project launched in 1929 in cooperation with the Tri-State Packers' Association to determine the feasibility of growing sweet corn for seed purposes was moderately successful. Extreme dry weather made it a somewhat unfavorable season for securing any very accurate indication of the possible success of this type of work. Thirty acres were put out, divided between the three varieties Shoepeg, Narrow Grain Evergreen and Hopeland, the latter an Evergreen type developed by the Maryland Station. Stock seed selections have been made for carrying on the work more extensively in 1930. A surplus is also available for distribution from the 1929 crops.

Another interesting development in canning crops improvement was the organizing of a Boys' 4-H Club in Frederick County. This was a cooperative project undertaken by a local packer and the County Agent. Some very fine crops were secured by the boys enrolled, the highest yield being 4.74 tons per acre. This idea appears to offer a splendid means of demonstrating improved cultural methods in addition to interesting the younger generation in agriculture.

No specific result projects were undertaken with canning peas other than the dissemination of information bearing on improved practices through the medium of personal service and grower-canner meetings. However, there is a marked improvement on the part of both growers and canners in the matter of growing this crop. There seems to be a substantial increase in knowledge on the part of growers as to safe long-time rotations for disease control, planting time, fertilization, the use of inoculation, etc.

While advice and assistance were given growers conducting open tomato plant beds for individual use and on a commercial scale, main emphasis has been placed on the cloth-covered plant bed. The latter is in the interest of early field planting and the resultant increased yields. According to records, one and a half

million tomato plants were produced in cloth-covered coldframes in 1928 and most of these were in the nature of directly supervised county agent demonstrations. Records for 1929 show that approximately eight million plants were produced in protected beds by Maryland growers. The project is showing a healthy gain and growers are well pleased with results.

Tomato seed-saving activities, conducted in cooperation with the Tri-State Packers' Association as a continuation project the past year, were unusually successful from many standpoints. The seed acreage was increased from about 50 acres in 1928 to 145 acres the past year. Work was also started on plans for hill-to-row progeny tests for the purpose of maintaining and improving seed stocks.

The Maryland Ten-Ton Tomato Club has proved a valuable means for inducing growers to practice generally improved cultural methods. For 1929 there were 127 growers enrolled with a total of 709 acres. Twenty-eight growers made yields in excess of ten tons per acre.

The system of buying canning house tomatoes on the U. S. Grade basis has been tried out in an experimental way by several Maryland canners. The reaction in most instances has been favorable on the part of the canner, but this method of buying was not continued, due to the disturbing influence of the open market system of buying and because of dissatisfaction on the part of growers. The latter is probably due to too low a price differential between grades.

In addition to giving consideration to the preceding projects the University of Maryland Extension Service, county agents and specialists, have given the usual amount of time and attention to growers' meetings and personal visits as a means of spreading improved practices.

Diseases of Canning Crops—Extension work on control of diseases of canning crops was carried out in close cooperation with L. M. Goodwin, Canning Crops Specialist. By working in almost constant touch with Mr. Goodwin, many single projects were made to affect both general horticultural practices and disease control.

Beans—Continuing the work of 1928, field tests were conducted to determine if the bean anthracnose organism lives over winter in Maryland soils. These tests seem to warrant the recommendation of at least a three-year rotation for beans.

The use of bean seed produced in semi-arid regions of the West was strongly advocated as a means of obtaining seed free from anthracnose infection. A few years ago practically all of the seed used in Maryland was produced in the eastern part of the United States. An intensive campaign was started at that time to change the practice and now most of the acreage is planted with western seed. This has probably had more influence than all other practices combined in cutting the losses from bean diseases.

Peas—The use of four-year rotations was recommended to pea growers to assist in controlling the three major diseases; root rot, wilt, and Ascochyta blight.

Professor C. E. Temple continued his work on the selection of a root rot resistant strain of Alaska. One strain has shown very high degree of resistance to the common root rot and almost immunity to Fusarium wilt. The selection seems to be very good from the standpoint of type and uniformity, also. Almost eight bushels of stock seed were saved from this strain and this will be turned over to the Horticultural Department for further increase before giving out samples to canners and growers.

Sweet Corn—A number of canners' samples of sweet corn were tested for germination and disease infection in the laboratory. In addition to letting the canner know the condition of his seed, the results were useful as a basis for seed treatment recommendations.

Tomatoes—A survey to determine areas of the State infested with Fusarium wilt was continued. Information from this survey is used in making recommendations for the use of wilt-resistant varieties.

The use of seed treatments was recommended again, particularly for early plantings. Several soil treatment demonstrations with organic mercury drenches for control of damping-off gave very good results.

Bacterial canker, a very serious disease in some sections, was found in Maryland for the first time. It was observed only on plants grown in the South, and growers have been warned to take additional precautions in securing plants from this source.

Several demonstrations showed quite favorable results in control of leaf blights by plowing tomato land in the fall.

Assistance was given Mr. Goodwin in the tomato seed-saving project. Seed from about 3,000 selected plants was saved for the seed acreage next year and about 50 individual plant selections were made for progeny tests.

TOBACCO

W. B. Posey, Specialist

EFFORTS toward improvement of the tobacco industry have continued throughout the year, with W. B. Posey serving as part-time specialist in that line of work. Although this industry is confined primarily to five counties, it brings an annual return in cash to the growers of approximately $6,250,000.

Major features of the program attempted during the year included: 1. Efforts to encourage the use of suitable varieties. 2. Demonstrations of better seed bed practices. 3. Encouragement of soil improvement methods. 4. Development of better methods of field culture. 5. Recommendations for more modern housing facilities. 6. Recommendations for marketing.

In carrying out this program, County Agents in the five counties were important factors and splendid aid and cooperation was also received from those in charge of the Marlboro Sub-Station, which is a joint project of the Office of Tobacco Investigations of the U. S. Department of Agriculture and the Maryland Experiment Station.

Seed Bed Improvement—Dozens of demonstrations were made to show the economic value of seed and plant bed sanitation. These included the sterilization of seed bed soil, and protection of the bed against ravages of insects and diseases by the use of good plant bed covers, boards and fences. As a result of the work, thousands of growers spray or dust their beds for further control.

Fertilizers—Between 200 and 300 field demonstrations were carried out to show the value of using the right kinds and right amounts of fertilizers, and the use of legume cover crops for soil improvement. Growers have been shown that increased applications of fertilizer greatly increase their net return, and more than 50 farmers have grown vetch successfully, which is the leading soil improving crop for tobacco. Several hundred growers have been induced to use modern machinery in distributing fertilizer, and also in setting plants—work which a few years ago was all done by hand.

Other Activities—Many plans for tobacco barns were furnished for the purpose of encouraging the use of better curing barns and stripping rooms. Instruction sheets were prepared for 4-H tobacco clubs. Two tobacco exhibits were prepared and shown at county fairs. Tours of growers from each county to the tobacco experiment station were arranged. A start was made toward the use of standard grades in the marketing of tobacco.

HOG CHOLERA CONTROL

I. K. Atherton, Inspector in Charge

THE hog cholera situation for the year ending November 30, 1929, was highly satisfactory. Only 337 outbreaks of the disease were reported. This is the smallest number with one exception that has been reported in Maryland for any year since the work was inaugurated in 1916. For a similar period ending November 30, 1925, 321 outbreaks were reported.

Two hundred and ten of the outbreaks were of the backyard type, although a few occurred on small truck farms. One hundred and twenty-seven were reported on farms where hogs are bred and raised. This is only approximately .3 of 1% of such places in Maryland and it might be added that on 11 of these premises garbage feeding plants were maintained.

Three hundred and ten of the outbreaks reported were primary, or new outbreaks, while only 27 were secondary, or spread of the infection from nearby premises where the disease existed.

Two hundred and eighty-three of the 310 primary outbreaks were apparently due to the feeding of garbage, table scraps,

kitchen swill, etc., which contained bones, rinds, or scraps of infected pork, or the water in which such pork had been washed. Twenty of the new outbreaks were due to the purchase of infected hogs, while in two instances they were caused by departing tenants leaving unburied carcasses in the hog lots. One was due to use of the double treatment, while in four cases no history could be obtained on which to base the source of infection.

Fourteen of the 27 secondary outbreaks were due to permitting hogs to run at large and come in contact with sick animals. In 12 instances the secondary outbreaks were caused by a combination of unburied carcasses and dogs or hogs running at large. In one case the spread of the disease was caused by movement of a farm implement from infected premises.

There were 5,698 hogs on the premises where hog cholera was reported when the disease appeared, 1,040 of these were dead and 1,380 visibly sick before the outbreaks were reported. One thousand four hundred and ninety-eight, or 26% of the hogs which were involved in outbreaks, were on 46 garbage feeding plants.

FARM ENGINEERING

R. W. Carpenter, Specialist

EXTENSION work in Farm Engineering was conducted as a part-time project by Professor R. W. Carpenter, with the assistance of Mr. H. E. Besley. Four farm structure demonstrations were held and nine drainage demonstrations. Sixty-five acres of land were reclaimed by drainage.

Work was practically completed upon an undertaking whereby each County Agent will be supplied with a set of plans for 48 different farm structures.

In addition to the above activities, and work in connection with the National Rural Electric Project, visits were made to 155 farms for the purpose of advising on engineering problems, and more than 300 letters were written to those who sought service by correspondence.

It is hoped to expand our work in farm engineering during the coming year. Especially do we desire to give publicity and conduct demonstrations showing the economic use of electricity

on the farm and in the farm home as shown by the National Rural Electric Project on the farms in Montgomery County. Many other lines of Extension engineering are needed among our people and we hope that more time of the specialists can be devoted to this project.

GENERAL EDUCATIONAL EXTENSION

AS heretofore, Mr. C. S. Richardson has served as part-time specialist in General Educational Extension. He reports that work for the past year was similar in character and of about the same extent as for previous years.

Meetings attended and addresses delivered	27
Procuring speakers for other meetings	15
Letters written	300
Radio broadcasting from time to time.	
Sending out of literature to clubs, etc. upon request.	

In addition, Mr. Richardson and his Associate, Miss Hester Beall, have greatly aided by giving instruction in public speaking and the development of personality at our last two Annual Conferences. He has also assisted in the Rural Women's Short Course.

Motion Pictures—Films have been distributed by the Service as heretofore. A large number have been secured from the U. S. Department of Agriculture. With an increasing demand for films, many belonging to the Service are old and funds are not available to purchase new ones. Moreover, with the introduction of talking films, there is a question as to the future demand for the quiet ones. The future policy of using present films with effectiveness is presented to all educational agencies. It is hoped that we may be able to meet the changing conditions in this field.

Radio Activities—The Service has continued its cooperation with the U. S. Department of Agriculture in giving farm talks over Station WRC every day during the fall, winter and spring months. It is felt that our radio audience appreciates this service and we are thus able to give our people timely information over the radio. In addition, the weekly lecture service has been maintained uninterrupted through the courtesy of Station WMAL.

We are indebted to both of these stations for their fine co-operation with us in this work. The broadcasting over WRC has been conducted by Mr. R. M. Watkins with the assistance of Mr. A. H. Snyder. It is hoped that funds will permit an extension of this service.

Lectures, Movable Schools, Etc.—There is a continued demand for lectures at various community and public meetings throughout the State. Every effort has been made to supply speakers from our staff. Likewise movable schools have been conducted during the year. The movable school, organized around one or two subjects, presents a splendid means for a community to receive definite instruction.

Correspondence Courses—Lack of funds has prevented us from developing our correspondence course work. We have had a limited number of courses prepared to meet the demands that have been made. It is hoped that our facilities may be improved in this important field.

GENERAL ADULT EDUCATION

It is believed that the Extension Service should be given facilities to expand its work in the General Adult Education field in addition to agriculture and home economics. It seems to the writer that the Land Grant Institution owes a service to all adult persons in the State. It offers education to all youth, both urban and rural; we should also offer service to all adults, without respect to occupation, or location.

There never was a time when adult people were more eager to improve themselves than today and the Extension Service should be prepared to meet this desire and demand. Moreover, it is believed that rural people desire and appreciate information in cultural subjects, arts and sciences, and that plans should be made to supply this educational demand. Changing economic conditions also make it desirable that farm people be acquainted with developments in every field of science, art and social relations.

The writer feels that Congress should be requested to provide funds for Land Grant Colleges to render the same educational

service to the masses living in urban and city districts, with State participation, as is now provided for those engaged in agriculture and for rural people generally.

MISCELLANEOUS WORK

The Service wishes to acknowledge the miscellaneous Extension work conducted by specialists connected with other divisions of the Institution. These include Prof. J. E. Metzger, Dr. W. B. Kemp, Dr. E. M. Pickens, Mr. Geary Eppley, Dr. W. T. L. Taliaferro and others. The Service is especially indebted to Dr. H. J. Patterson, Director of the Experiment Station and Dean of the College of Agriculture, for his cordail support and helpful suggestions at all times.

Letters of Inquiry

Following the termination of the Southern Maryland Immigration Commission's work, the Service took over all correspondence relating to settlers and persons from all over the United States desiring to locate in Maryland. All letters of this character are answered, giving desired information relating to the agricultural possibilities of the State, price of farm lands and the many other questions asked. This correspondence is so extended that steps should be taken to prepare a book dealing with the agricultural resources and industrial development of the State. There is urgent need for such a publication.

Survey and Development Commission

The Director of Extension was appointed a member of the Survey and Development Commission authorized by the last legislature. The Commission, working closely with the Baltimore Chamber of Commerce and the various State Departments, is about to make a comprehensive survey of the State's resources that present an opportunity for development.

CONCLUSION

The work of the Service during the past year has been very satisfactory. The emphasis placed upon programs of work by the Agents and specialists has resulted in more definite accomplishments.

Following the conference in 1928 on cooperative marketing, more and more attention has been given to marketing activities. The impetus of the passage of the Agricultural Marketing Act by Congress has served to further stress the economic and marketing phases of our work.

The outlook for Extension work in the State was never brighter. All forces are cooperating to improve our agricultural situation. No State offers greater possibilities in agriculture than Maryland. Our nearness to markets, our equable climate and variety of soils, all combine to make the business present an opportunity to the man who will work and apply modern practices in the culture of crops or raising of livestock.

We are fortunate in Maryland, particularly at this time, in having all of our State agricultural agencies centered in one Board, the State Board of Agriculture. This makes for efficiency, harmony and cooperation. The members of the Service and the writer are indebted to the U. S. Department of Agriculture and officials in charge of Extension Work for the splendid assistance rendered this State on any and all occasions. We are particularly pleased to record the assistance rendered by and sympathetic support of the State farm organizations. There are many problems in farm organization demanding attention and study, but above all they must be appreciated in a sympathetic and cooperative manner.

Finally, I desire to express my warm appreciation to all members of the staff and office force for their sympathetic cooperation and assistance in directing the work of the Service and to express the appreciation of the Service and the writer to President R. A. Pearson for his great interest and sympathetic assistance to promote Extension activities in the State.

FINANCIAL REPORT FOR THE FISCAL YEAR ENDING JUNE 30, 1929

	Federal Capper-Ketcham Funds	Smith-Lever Funds		State Offset to Clarke-McNary Forestry Extension Funds
		Federal	State	
DR.				
Unexpended balance from 1927-28				
To receipts from the Treasurer of the United States and from State sources as per appropriations for fiscal year ended June 30, 1929	$20,000.00	$74,068.49	$64,068.49	$1,936.00
CR.				
By Personal services	19,583.32	63,593.17	53,208.21	1,238.95
Supplies and Materials		423.22	1,928.44	134.29
Communication service	2.85	396.02	706.77	1.10
Travel expenses	413.83	8,227.28	5,767.36	457.96
Transportation of things (service)		337.65	1,081.92	22.70
Printing, binding, and cuts for publications		332.15	929.06	81.00
Furnishing of heat, light, power, water, and electricity (service)		700.00		
Equipment		21.00	372.43	
Miscellaneous		38.00	74.30	
Total	$20,000.00	$74,068.49	$64,068.49	$1,936.00

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING SOURCES OF FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1929

Projects	Total	Federal Capper-Ketcham	Smith-Lever		College and State	County	Other
			Federal	State			
Administration	$19,796.56	$	$5,570.37	$7,290.56	$5,478.27	$	$1,457.36
Publications	7,364.75		1,977.39	2,353.48	3,032.02		1.86
County agent work	120,990.58	12,123.22	37,167.93	25,031.05	9,668.69	36,628.20	371.49
Home demonstration work	92,597.89	7,876.78	15,822.91	9,861.00	27,581.12	27,385.80	4,070.28
Boys' Club work	7,540.15		1,533.21	3,002.24	22.08		2,982.62
Agronomy	5,145.04		1,757.56	3,019.79	295.78		71.91
Animal Industry	4,730.30		1,128.07	3,117.29	353.30		131.64
Horticulture	7,736.84		3,516.27	3,296.92	919.53		4.12
Dairying	11,095.60		2,095.98	2,955.14	1,519.92		4,524.56
Marketing and Rural Organization	11,362.01		212.50	1,108.34	10,041.17		
Poultry	4,898.44		1,381.22	2,913.85	559.22		44.16
Entomology	25,654.40		827.22	118.83	24,627.65		80.70
Pathology	5,399.55		977.84		4,399.45		22.26
General Educational Extension	2,497.97				2,218.83		279.14
Canning Crops	9,136.78		100.02		9,033.56		3.20
Farm Forestry	1,963.34				1,936.00		27.34
Total	$337,910.20	$20,000.00	$74,068.49	$64,068.49	$101,686.59	$64,014.00	$14,072.63

SUMMARY STATEMENT OF EXPENDITURES, BY PROJECTS, SHOWING CLASSIFICATION OF EXPENDITURES FROM ALL FUNDS USED FOR EXTENSION WORK, FISCAL YEAR ENDING JUNE 30, 1929

	Personal Service	Supplies and Materials	Communication Service	Traveling Expenses	Transportation of Things	Printing, Binding and Cuts for Publications	Furnishing of Heat, Light, Power and Electricity	Equipment	Miscellaneous	Total
Administration	$10,080.02	$2,412.98	$1,031.66	$	$2,448.89	$	$2,200.00	$1,162.15	$460.86	$19,796.56
Publications	4,142.08	11.23	24.70	325.60	38.24	2,811.65		11.20		7,364.75
County Agent Work	92,509.12	3,554.02	12.93	24,785.45	33.43			30.63	65.00	120,990.58
Home Demonstration Work	70,307.68	3,928.87	49.19	17,945.97	60.59	6.75		173.59	125.25	92,597.89
Boys' Club Work	3,877.97	87.05	4.00	3,537.60	2.05			6.47	25.01	7,540.15
Agronomy	3,753.60	8.06	6.75	1,352.26	10.77			13.60		5,145.04
Animal Industry	3,300.00	29.48	6.48	1,387.81	2.93				3.60	4,730.30
Horticulture	6,324.37	71.49	3.00	1,332.39	.48			5.11		7,736.84
Dairying	8,330.00	133.04	6.05	2,597.81	7.50		15.00	6.20		11,095.60
Marketing and Rural Org.	7,648.72	719.99	985.92	1,605.92	26.33			363.63	11.50	11,362.01
Poultry	3,624.38	109.45	8.95	1,130.89	8.77			16.00		4,898.44
Entomology	11,722.47	8,972.00	226.00	3,489.67	617.84	171.00		409.60	45.82	25,654.40
Pathology	4,217.50	51.57	3.70	1,101.56	17.67			7.55		5,399.55
General Educational Extension	1,374.87	282.71		833.08	3.31			4.00		2,497.97
Canning Crops	6,275.63	142.94	547.35	1,945.74	2.93	37.25		176.94	8.00	9,136.78
Forestry Extension	1,238.95	134.29	1.25	485.15	22.70	81.00				1,963.34
Total Expenditures	$238,727.36	$20,649.22	$2,917.93	$63,856.90	$3,304.43	$3,107.65	$2,215.00	$2,386.67	$705.04	*$337,910.20

* In addition, $19,380 was disbursed by the U. S. Department of Agriculture; making a grand total of $357,290.20.

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The following circulars, published by the University of Maryland Extension Service, cooperating with the United States Department of Agriculture, will be mailed free of charge to any address upon request:

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No. 39—Corn Cultivation.

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No. 59—Possible Spread of the Wheat Disease Nematodes by Infested Chicken Feed.

No. 60—Maryland Seed Certification Board.

No. 61—Brooding and Rearing of Chicks.

No. 62—Cattle Grubs or Ox Warbles.

No. 63—Certification of Seed Potatoes.

No. 65—Forestry Exhibits.

No. 66—The Maryland Poultry House.

No. 67—Raising Calves on Skim Milk Powder.

No. 68—The Control of Wheat Smut.

No. 69—Law to Promote Bee-Keeping Industry in Maryland.

No. 70—The Art of Furniture Arrangement.

No. 71—Law Providing for the Control and Suppression of Insect Pests.

No. 73—The Mexican Bean Beetle.

No. 75—Sweet Potato Certification.

No. 76—The Spirit of the New Kitchen.

No. 79—The Culture of Peas for Canning.

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*L. H. Martin (Col.)	Eastern Shore	Princess Anne

* In cooperation with the U. S. Department of Agriculture.
† Devoting part time to Extension Work.

COUNTY HOME DEMONSTRATION AGENTS

County	Name	Headquarters
Allegany	*Maude A. Bean	Cumberland
Anne Arundel	*Mrs. G. Linthicum	Annapolis
Baltimore	*Ruth Nesbitt	Towson
Calvert		Prince Frederick
Caroline	*Bessie Spafford	Denton
Carroll	*Agnes Slindee	Westminster
Cecil	*Priscilla Pancoast	Elkton
Charles	*Mary Graham	La Plata
Dorchester	*Hattie Brooks	Cambridge
Frederick	*Helen Pearson	Frederick
Frederick	*Ernestine Chubb (Assistant)	Frederick
Garrett	*Elsie M. Benthein	Oakland
Harford	*Catharine Maurice	Bel Air
Howard	*Myrne Hendry	Ellicott City
Kent	*Helen Schellinger	Chestertown
Montgomery	*Blanche Corwin	Rockville
Prince George's	*Ethel Regan	Hyattsville
Queen Anne's		Centerville
St. Mary's	*Ethel Joy	Leonardtown
Somerset		Princess Anne
Talbot	*Mrs. Olive K. Walls	Easton
Washington	*Ardath Martin	Hagerstown
Wicomico	*Marian Swanson	Salisbury
Worcester	*Lucy Walter	Snow Hill

LOCAL HOME DEMONSTRATION AGENT

Charles, St. Mary's and Prince George's	Mrs. Arminta Watson	1812 Vernon St., Washington, D. C.

GARDEN SPECIALIST

Carrollton & Lafayette Aves.	Mrs. Adelaide Derringer	Baltimore

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Carroll	*Agnes Slindee	Westminster
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19

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